TEXTILE TECHNOLOGY DIGEST

VOLUME 15 | OCTOBER 1958 | NUMBER 10

ABSTRACTS

FIBERS A

FIBERS. C. S. Grove, Jr., R. S. Casey, and J. L. Vodonik. Ind. Eng. Chem. 50: 1444-1448 (Sept. 1958). (3581)

A review of fiber developments and literature for the past year under the headings: cotton, nonwoven fabrics, and manmade fibers. 115 references.

NATURAL FIBERS A 1

MECHANICAL PROPERTIES OF WOOL FIBERS. PART 1. CREEP IN THE HOOKEAN REGION OF WOOL FIBERS IN WATER. M. Feughelman (Wool Textile Research Labs., CSIRO, Australia). J. Textile Inst. 49: T361-T378 (Aug. 1958). (3582)

For wool fibers in atmospheres of relative humidity less than 100%, the linear relationship between stress and strain persists to strains higher than 1%. Because of general usage, this region of linearity is referred to as the Hookean region. No systematic investigation of creep of wool fibers in water in the Hookean region for variation of temperature and load has been reported in the literature. The purpose of this investigation was to examine the creep of wool fibers in water for loads corresponding to the Hookean region. An attempt was then made, using a model based on the Burte-Halsey two-state model, to explain the experimental results obtained. Tables. Graphs. 8 references.

MECHANICAL PROPERTIES OF WOOL FIBERS. PART 2. SINGLE FIBERS AT 0% rh IN THE YIELD REGION. B. J. Rigby (Wool Textile Research Labs., CSIRO, Australia). J. Textile Inst. 49: T379-T383 (Aug. 1958). (3583)

The more important mechanical properties of dry wool, e.g. stress-strain, creep under constant load, and stress relaxation at constant strain, are examined. The paper is concerned with short-term processes, i.e. processes taking place over a few minutes after a load or strain is applied. Graphs. 5 references.

PLASTIC PROPERTIES OF COTTON AND WOOL. J. A. Somers. Textile Recorder 76: 72, 75-76 (Sept. 1958). (3584)

The role of fiber plasticity in the finishing of cotton and wool fabrics is discussed. Investigations on the effects of moisture on cotton and wool plasticity and their application to finishing processes are described. Graphs. 3 references.

A COMPREHENSIVE RESEARCH PROGRAM ON COTTON QUALITY EVALUATION. G. S. Buck, Jr. (Nat. Cotton Coun. of America). Can. Textile Seminar Papers 6: 139-142 (1958). (3585)

A new intensified quality evaluation research program is planned in which the cotton industry and the U.S. Dept. of Agri. will cooperate. A new 1000-spindle pilot spinning laboratory at Clemson College will be a part of this program.

PROGRESS REPORT ANNUAL VARIETAL AND ENVIRONMENTAL STUDY OF FIBER AND SPINNING PROPERTIES OF COTTONS: 1957 CROP. U. S. Agri. Research Serv., Washington, D. C. July 1958. 98 p. (3586)

Results of fiber and yarn tests on current varieties and experimental strains from the 1957 crop. The fiber and yarn tests were made primarily to evaluate new strains and varieties that have been recently developed or are in the process of being developed throughout the cotton belt.

CHEMICAL CHARACTERS OF JUTE FIBER ALONG ITS LENGTH. H. Chatterjee and A. K. Mazumdar (Indian Central Jute Comm.). (Letter to the editor). J. Sci. Ind. Research (India) 17: 169-170 (Apr. 1958). (3587)

ASBESTOS IN THE TEXTILE INDUSTRY. R. Hunlich. Melliand Textilber. 39, No. 3: 239-242 (1958). In German. Through BCIRA 38: 459 (1958). (3588)

Types of asbestos, crushing of the raw material to separate the fiber from the rock particles, opening, picking, carding, and spinning of the card sliver are described, with reference to the respective machinery. Many asbestos yarns, especially those with short fiber-lengths, contain admixtures of cotton and rayon staple fibers, or even nylon and wool (USP 2 542 297, United States Rubber Co.: Asbestos-nylon cover cloth).

MANMADE FIBERS A 2

PROFIT OPPORTUNITIES IN MANMADE FIBERS. J. Campbell. Modern Textiles Mag. 39: 49-68 (Sept. 1958). (3589)

This report on new end-use developments in manmade fibers, yarns, and fabrics is broken down into three major categories: apparel, home furnishing and domestic fabrics, and industrial uses.

DURAFLOX: NEW VISCOSE RAYON STAPLE FIBER WITH HIGH WET STRENGTH. W. Bandel. Reyon, Zellwolle u. Chemiefasern No. 5: 355-358 (1958). In German. Through BCIRA 38: 458 (1958). (3590)

The new viscose fiber, of the type of a full-skin fiber (developed by Vereinigte Glanzstoff Fabriken and Spinnfaser AG), has dry and wet strengths exceeding those of other viscose fibers and exhibits also higher loop-strength and bending values. Owing to these favorable properties it is possible to produce from it very fine and regular yarns and, consequently, fabrics with good wear properties. The low swelling value, in conjunction with high dye affinity, makes it possible to obtain level dyeings even on dense fabrics. In contrast to cotton, the fabrics retain their strength even after a severe (resin) finishing treatment.

PROGRESS IN THE DEVELOPMENT OF NEW SYNTHETIC FIBERS. E. Frieser. SVF Fachorgan Textilveredlung 13, No. 5: 257-265 (1958). In German. Through BCIRA 38: 459 (1958). (3591)

Chemical constitution, preparation, and properties are listed for Darlan, Teflon, Ftorlon (U. S. S. R.), the polyester fiber from vanillin (Rayonnier Inc.), Zefran, and Saniv (U. S. S. R.), Verel, and the polyalkyleneamino-triazole fiber (British Celanese Ltd). Some physical data for these fibers are compared with those for nylon, Terylene, and Orlon.

DYNAMIC CHANGES IN VISCOSE FIBERS. C. E. Coke (Courtaulds (Canada) Ltd). Can. Textile Seminar Papers 6: 102-112 (1958). (3592)

A review of changes and improvements in viscose fibers over the past fifty years. Graphs. Diagrams. Cross sections. 30 references.

VERSATILE VISCOSE: THE FIRST PLANNED FIBER. PART 1. NEW FORMS. J. W. S. Hearle. Skinner's Silk & Rayon Record 32: 847, 849-851 (Aug. 1958). (3593)

The advances being made in producing new forms of viscose rayon derive especially from observations of the difference between the skin of a viscose rayon fiber and its core. By altering the spinning conditions, variations in the amounts of skin and core are possible. The various types of fibers resulting from such modifications, as well as from changes in denier, staple length, and filament shape, or by loading the filaments with other substances (for example, with fine particles of titanium dioxide or with pigments) are described. Photomicrographs. Graphs. Table.

FIBERS NOTEBOOK. PART 1. ORLON. J. G. Cook. Fibres 19: 34 (Jan. 1958). (3594)

Processing, properties, uses.

FIBERS NOTEBOOK. PART 8. SARAN. Fibres 19: 266 (Aug. 1958). (3595)

The processing, structure, properties, and uses of Saran, a copolymer of vinyl chloride with vinylidene chloride, are covered.

LOAD-DEFORMATION CURVE FOR NYLON. V. Laws (Wool Textile Research Labs.). (Letter to the editor). J. Textile Inst. 49: T357-T360 (July 1958). (3596)

TECHNOLOGICAL USES FOR ENKALON. J. D. Oostindiër and J. G. Vos. Enka Breda Rayon Rev. 12: 37-52 (July 1958). (3597)

The mechanical, physical, and chemical properties of Enkalon, which make it particularly suitable for such applications as tarpaulins, sacks, fishing nets, cables, hawsers, fire hose, and sporting goods, are described. Tables. Photographs.

MODERN TEXTILES MAGAZINE TABLES OF DENIER NUMBERS AND FILAMENT COUNTS OF U. S. MAN-MADE YARNS AND FIBERS. H. G. Janner. Modern Textiles Mag. 39: 69-78 (Sept. 1958). (3598)

These tables have been revised and brought up-to-date so as to present the most recent data on denier numbers and filament counts of manmade filament yarns and staple fibers manufactured in the United States. Addresses of yarn producer sales offices are also given. Reprints are available for 50¢ each from Modern Textiles Magazine, 303 Fifth Ave., New York 16, N. Y.

COLD-DRAWING OF NYLON 6.6. D. C. Hookway (Brit. Nylon Spinners Ltd). J. Textile Inst. 49: P292-P316 (July 1958). (3599)

An investigation was made into the variation in shape of the load-elongation curve of undrawn polyhexamethylene adipamide (nylon 6.6) filaments with change in ambient conditions, isotropic refractive index of the undrawn filament, and speed of extension at low speeds of extension (0.008 cm/sec-0.43 cm/sec). The interaction of these variables and their resultant effect on the load-elongation curve are traced to a change in molecular mobility within the amorphous regions of the filament. Tables. Graphs. Photomicrographs. 21 references.

YARN PRODUCTION B

SIGNIFICANCE OF INFLECTION POINTS IN THE ASCENDING BRANCH OF THE DRAFTING CURVE. W. Wegener and G. Neuhaus. Reyon, Zellwolle u. Chemiefasern No. 3: 188-195 (1958). In German. Through BCIRA 38: 392 (1958). (3600)

Diagrams recorded during static drafting force measurements on slivers and visual observations prove that (1) the first inflection point in the ascending branch of the drafting curve is due to the commencement of straightening and decurling of individual fibers and fiber groups, and (2) the second inflection point characterizes the commencement of single-fiber or fiber-group slipping, indicating that this phenomenon starts before the maximum load is reached. Determination of the quotient from load length of single fiber/load length of sliver gives values much higher than those expected during pure stretching of the fibers. This may be explained by the fact that this value contains a component due to the slipping draft. 12 references.

IMPROVING BLENDING BY MICRONAIRE NUMBERS. N. N. Nolen. Textile World 108: 62-63 (Sept. 1958). (3601)

The actual micronaire value of a multibale cotton mix may vary considerably from the precalculated figure because of fineness variation within bale groups. This new system makes it easy to compare actual with theoretical fineness and to produce blends with exact micronaire values.

SPINNING OF VISCOSE RAYON STAPLE FIBER ALONE AND IN MIXTURES. E. Simon. Melliand Textilber. 39, No. 2: 127-133 (1958). In German. Through BCIRA 38: 392 (1958). (3602)

It is shown that viscose rayon staple can be spun by the cotton, condenser, worsted, and bast-fiber spinning methods, alone or in blends with wool. Special reference is made to special spinning processes for chemical fibers, the tow-to-top and the tow-to-yarn methods, and the respective machinery.

DAMAGE TO VISCOSE STAPLE FIBERS IN COTTON SPINNING PROCESS. K. Yamaga (Gumma Univ.). J. Textile Machy. Soc. Japan 4: 7-11 (June 1958). In English. (3603)

During the processing of viscose staple fibers by cotton spinning machines, the breaking strength, breaking elongation, crimp, and length of fibers are more or less affected by the action of each machine. The authors have studied the relation between (1) the cut length and denier of the fiber, and (2) the degree of damage. They found that: (1) the decrease of breaking strength is negligible, (2) yarn shows a 4-5% smaller breaking elongation than the raw material does, (3) the bulk of crimp is lost in the machine prior to the carding process. Only 15 to 20% of crimp is retained in the final product. However, the amount of the retained crimp is influenced by the pressure of draft rollers and by the amount of draft. (4) The amount of broken fiber in the final process is an average of 13% for 1 1/8 in. staple and 15% for 1 1/4 in. staple. The finer denier fibers should normally be subject to more damage, but no significant difference is found between 1-denier and 3-denier staples of the lengths mentioned. Graphs. Diagrams. 4 references.

SPINNING YARNS DIRECTLY FROM SLIVERS. S. E. Patrick, Jr. (Saco-Lowell Shops). Can. Textile Seminar Papers 6: 46-51 (1958). (3604)

A review of past and present systems for spinning yarns directly from slivers. Diagrams. Photographs.

COTTON YARN PROCESS VARIATION ANALYSIS AND CONTROL. A. S. Klimes (Dominion Textile Co. Ltd). Can. Textile Seminar Papers 6: 133-138 (1958). (3605)

Survey of the causes contributing in varying degree to yarn unevenness. Graphs.

EFFECT OF ACRYLIC BLEND COMPOSITION ON YARN AND FABRIC PROCESSING AND PERFORMANCE. H. D. Edwards and H. Sneyd (Courtaulds Ltd). J. Textile Inst. 49: P394-P417 (Aug. 1958). (3606)

The general principles of the study outlined in this paper are applicable to most acrylic fibers having at least 85% of acrylonitrile as a constituent, but the paper is concerned particularly with Courtelle. The general physical properties of Courtelle and its processing, either alone or in blends on the cotton, woolen, and worsted systems of spinning, are described. A description is also given of the processing of Courtelle tow on the Turbo stapler. The remainder of the paper is concerned with the wet-finishing of blends containing Courtelle and other fibers. Details are given of the effect of blend composition on dimensional changes during processing, and on the performance of finished fabrics. Tables. Graphs. 5 references.

INDEX OF BLEND IRREGULARITY AND ITS PRACTICAL USE. M. J. Coplan, C. A. Lermond, and R. A. Kenney (Fabric Research Labs.). J. Textile Inst. 49: P379-P393 (Aug. 1958). (3607)

Several sources of information seem to confirm the notion that staple processing machinery does not mix single fibers in a random fashion. There is a tendency for fibers to remain together in clusters of size ranging from about 15-30 fibers (or more) in single-carded sliver down to 2-6 in yarns. Three-cylinder carding appears to reduce the cluster size directly to about 2-4. Drafting apparently reduces the clustering, as evidenced by blend distribution along the strand length. The actions of doubling and condensing alone cannot accomplish this, but seem to randomize single fibers within cross-sections. Tables. 12 references.

PROCESSING DU PONT 420 NYLON STAPLE IN BLENDS WITH COTTON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. July 1958. 6 p. Bull. N-110 (replaces Bull. N-93). Free. (3608)

Du Pont 420 nylon is used as the staple for reinforcing cotton utility fabrics such as twills, sateens, denims, whipcords, coverts, and drills.

WORSTED SPINNING MILL REORGANIZES MATERIAL HANDLING. John C. Horsfall & Sons Ltd. Textile Recorder 76: 66-67 (Sept. 1958). (3609)

A new scheme, based on the use of specially designed light alloy trays, has been introduced in a Yorkshire worsted mill for transporting the material from the spinning frames to the twisters and, after twisting, to the reeling machines.

WOOL SPINNING OILS. W. Linke. Melliand Textilber. (English ed.) 39, No. 3: 202-205 (1958). (3610)

Lanigan Oil SG is soluble in cold water in all proportions. It is applied to wool in the same quantities as olein or mineral oils, normally 4-7%, calculated on the weight of wool. An outstanding feature of the new woolen oiling agent is that it causes far less corrosion of the iron and other metal parts of spinning machinery than olein. Other advantages are cited.

COTTON LOSS IN SPINNING. H. Wilson. Indian Textile J. 68: 597-599, 610 (July 1958). (3611)

Brief survey of sources of losses of cotton in processing from raw stock to yarn.

OPENING, PICKING, FIBER PREPARATION B 1

KANEBO-TYPE AUTOMATIC LAP MACHINE. R. Kawazura, K Fujii, and M. Fujiwara (Kanegafuchi Spinning Co. Ltd). J. Textile Machy. Soc. Japan 4: 48-51 (June 1958). In English. (3612)

The authors have developed a new fully automatic doffing arrangement which severs the completed lap from the fleece, ejects the full lap automatically, and has a newly designed bobbin around which the lap is wrapped. Improved lap uniformity is claimed. Diagrams. Photographs. 7 patent references.

TOYOBO-STYLE AUTOMATIC LAP CHANGER. H. Isono and T. Matsumoto (Toyo Spinning Co. Ltd). J. Textile Machy. Soc. Japan 4: 52-55 (June 1958). In English. (3613)

This automatic lap changer is the result of the authors' attempt to achieve improved lap quality and higher opening and picking efficiency through one-process opening and picking. The Toyobo lap changer speeds up lap winding. Conventional gears are used to drive each part and an electrically controlled pneumatic system has been used for each motion. Diagrams. Photographs.

MILL TEST RESULTS BY MODEL D OPENER FOR TRASHED MACHINE PICKED COTTON. K. Aoki, A. Aoki, and T. Iwai (Daiwa Spinning Co. Ltd). J. Textile Machy. Soc. Japan 4: 56-58 (June 1958). In English. (3614)

In a previous report (see abstr. 441/58), the mechanism and function of the model D opener was explained. The present report gives results obtained by using the model D opener for trashed cotton which contains much more nonlint than the standard raw cotton. The results are better than those obtainable from standard raw cotton processed with the conventional finishing picker. Tables. Graphs.

CARDING AND COMBING B 2

STUDY ON COMBING ACTION AND COMBER WASTE IN A COTTON COMBER. T. Yamagishi, E. Koyama, and H. Kuroe (Kurashiki Spinning Co. Ltd). J. Textile Machy. Soc. Japan 4: 1-6 (June 1958). In English. (3615)

The authors seek to compute the percentage of comber waste, to make some modifications or improvements in the constituent parts of the combers now in use, and to find a guide to further study on the subject. As regards combing action in a cotton comber, some theoretical approaches to the geometrical arrangement of fibers in sliver are made. Assuming that the staple diagram of fed ribbon lap, the timing of combing parts, and the distance between any two of them are given, the percentage of comber waste is computed, and a comber noil staple diagram and a comber sliver staple diagram are drawn. Diagrams. Graphs. 3 references.

STUDY OF COTTON COMBING. C. D. Brandt (Whitin Mach. Works). Can. Textile Seminar Papers 6: 42-45 (1958). (3616)

Discussion of how the comber functions and what it does, and the economics of the process.

SLUBBING VARIATION IN WOOLEN CARDING. L. Mackereth. Wool Record 94: 27 (July 3, 1958). (3617)

Experiments on the function of the scotch intermediate feed in laying the sliver across the carder feed sheet are reported briefly.

RUNNING COTTON COMBERS. E. Z. Cohen. Textile Inds. 122: 119, 123, 127 (Sept. 1958). (3618)

Pointers on timing and setting, maintenance, and sources of defects.

COMBING OF COTTON AND ITS PREPARATION. A. Friedrich. Melliand Textilber. 39, No. 3: 242-244; No. 4: 359-360 (1958). In German. Through BCIRA 38: 462 (1958). (3619)

Pretreatment of the fiber, choice of suitable lap weights for the sliver lap machine and ribbon lapper, and determination of the percentage combing waste are discussed.

VISCOSE STAPLE ON THE ROLLER CARD. G. Porsche. Melliand Textilber. 39, No. 2: 125-126 (1958). In German. Through BCIRA 38: 391 (1958). (3620)

An attempt is made to ascertain the most favorable conditions for carding viscose staple fiber by examining the carding work between cylinder and doffer, as well as the mutual arrangement of the workers and clearers and their rotation directions. The advantages of increased worker speed for the carding effect and of the larger doffer for the uniformity of the fiber length are pointed out.

FANCY ROLLER POSITIONING ON THE WOOLEN CARD. L. Mackereth. Textile Recorder 76: 63 (Sept. 1958). (3621)

An unconventional arrangement is described. It involves modifications to the workers, strippers, and fancy rollers but the same bearings and rollers are used. Diagram.

OPERATING CARD FEEDERS. W. J. Crofts. Textile Inds. 122: 85-91 (Sept. 1958). (3622)

Successful, trouble-free operation of woolen card feeders requires constant stock pressure against clean spikes, a sensitively balanced scale, and a compact feed table to insure uniform delivery. Pointers on maintaining these desirable conditions are given. Photographs. Diagrams.

IMPROVED COILING OF MANMADE FIBERS. Textile Recorder 76: 67 (Sept. 1958). (3623)

A small guide is placed between the calender rollers and the top of the tube where it effectively closes the gap through which the sliver is able to escape when any resistance is encountered at the mouth or in the tube. Diagram.

COTTON WASTE INDUSTRY. PART 7. ENGLISH SYSTEM OF CARDING. Platt Bros. Ltd. Platts Bull. 9, No. 6: 175-184 (1958). (3624)

The characteristics and applications of the machines used are explained in detail. Diagrams.

DRAWING AND ROVING B 3

MODERN WORSTED SPINNING PRACTICE: IMPROVING WORSTED PREPARATION MACHINERY BY ADDING STANDARDIZED UNITS. H. Kittel. Melliand Textilber. (English ed.) 39, No. 3: 150-158 (1958). (3625)

The advantages of control devices (electric stop motions and a triple roller unit delivery device with a spring loading system) for updating existing gill boxes (intersecting, rubber, and ordinary) and porcupine drawing frames are explained. Tables. Diagrams. Photographs.

SLIBOMATIC SLIVER ROLL FORMER. Serra SA. Textile Recorder 76: 80-81 (Sept. 1958). (3626)

The Slibomatic frame has been designed to replace the finisher drawframe, and to wind the sliver on to bobbins suitable for the ring frame creel. Photographs.

A STUDY OF THE EFFECTS OF PRETWISTING AT THE ROVING PROCESS ON THE PHYSICAL PROPERTIES OF COTTON YARNS. J. L. Thompson. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 83 p. (3627)

INVESTIGATIONS ON THE COTTON DRAWING FRAME. J. Decker. Deut. Textiltech. 8, No. 4: 167-170 (1958). In German. Through BCIRA 38: 427 (1958). (3628)

The most important international findings concerning the draft distribution are critically examined, preference being given to the 2-zone draft distribution.

SPINNING, WINDING, TWISTING B 4

TRAVERSING BALLOON CONTROL RINGS. Textile Bull. 84: 35-36, 38 (Aug. 1958). (3629)

Traversing balloon control rings are particularly useful with small package frames which have been converted to larger packages by the use of larger diameter rings and a longer stroke. Results obtained by two mills using this system are reported.

ECONOMICS OF HIGHER LIFTS AND LARGE PACKAGE IN RING SPINNING. G. U. K. Nair. Indian Textile J. 68: 484-485 (May 1958). (3630)

Brief survey of the advantages and economics of higher lifts and larger packages in ring spinning.

EXPERIMENTS ON CAN SPINNING OF DRY STAPLE FIBERS. K. Bettermann. Faserforsch. u. Textiltech. 9, No. 3: 87-94 (1958). In German. Through BCIRA 38: 462 (1958). (3631)

A carrying arm is described which makes it possible to insert an elastic roll of PVC-foil into the cake center and to release it at a suitable moment so that the foil opens and lines the inner wall of the cake. An additional arrangement, together with a lifting lid, facilitates the mechanical removal of the cake. Spinning is started and piecing of broken ends is effected by means of an auxiliary thread which is introduced by air into the thread guide, operating according to the injector principle. Removal of the cake and starting of a new one takes about 20.3 sec. A new, vertically-arranged 2-zone high-draft cotton drawing system, especially for use on can-spinning machines, is also described.

USE OF PLASTICS IN SPINNING PRACTICE. K.-H. Banke. Deut. Textiltech. 8, No. 5: 261-266 (1958). In German. Through BCIRA 38: 427 (1958). (3632)

After reviewing the mechanical, technological, physical, and chemical properties of plastics, the author gives examples of their uses in divider-aprons, rubbing leathers, spinning-roller cots, drawing-roller aprons, spindle accessories, rings and travelers, and bonded-fiber yarns. 42 references.

ECONOMICAL CONSIDERATIONS CONCERNING CAN SPINNING. K. Bettermann. Faserforsch. u. Textiltech. 9, No. 4: 136-142 (1958). In German. Through BCIRA 38: 462 (1958). (3633)

Ring- and can-spinning methods are compared as regards the theoretically and practically determined production values and work distribution on the spinning machine. Regardless of the power costs, the can spinning machine is economical only if its output amounts to twice the production of the ring-spinning machine, i.e. if mainly fine yarns are spun. The reduction in the wages in the case of can-spinning (less attendant personnel) is not so great as to compensate for the higher power consumption. It may be assumed, however, that the improvement in yarn quality leads to a reduction of the production costs during further processing of the yarn.

UPTWISTING MACHINES. F. Fourné. Reyon, Zellwolle u. Chemiefasern No. 4: 288-297 (1958). In German. Through BCIRA 38: 393 (1958). (3634)

New constructions of twisting machines with several rows of bobbins, one above the other, are reviewed and nomograms are presented for determining the thread tension in the balloon as a function of yarn count, spindle speed, bobbin dimension, and balloon height and for rough estimation of the most economical spindle speed in dependence of current costs, wages/hour, and type of bobbin. A table is given listing technical data for various types of friction-bearing and roller-bearing spindles and their producers.

PRESENT STATE OF THE TWISTING TECHNIQUE. R. Struve. Spinner u. Weber 76, No. 9: 544-546; No. 10: 590-592 (1958). In German. Through BCIRA 38: 428 (1958). (3635)

Reference is made, in particular, to (1) downtwisters (ring-twisting machine, the Thieron double-ring system, the Freund method, the draft-twisting machine for synthetic fibers, the needle-twisting machine, the flyer-twisting frame, the cap-twisting machine, and double-twist twisting spindles), (2) uptwisters (twisting machines with several rows of bobbins one above the other, hollow spindles, double-twist spindles), and (3) combined processes carried out in one-stage installations.

DETERMINATION OF THE OPTIMUM CONDITIONS OF OPERATION OF SPINNING MACHINERY. A. Dudley (Shirley Inst.). J. Textile Inst. 49: T317-T332 (July 1958). (3636)

It is often desirable to know the best values of, for example, roller settings, draft distribution, or hank feed to use when spinning in order to obtain the best yarn. This paper describes a technique for determining the optimum values of these and other quantities. In the usual method of approach to this problem, each variable is investigated separately, but, in the technique described in this paper, all the variables are altered simultaneously, and the same information can be obtained from a smaller number of experiments. The method also gives a clear picture of the nature of the effect of each variable, whatever the values of the other variables may be. The technique described, which is based on the method of steepest ascent, is particularly suitable for mill use since it enables information about the effect of altering some or all of the variables to be obtained without interfering with production. Graphs. Tables. 2 references.

PRACTICAL EXPERIENCE WITH VARIOUS DRAFTING SYSTEMS IN COTTON SPINNING MILLS. A. Beck. Spinner u. Weber 76, No. 6: 279-283 (1958). In German. Through BCIRA 38: 427 (1958). (3637)

Experiences with various old and new drafting systems on speed frames and ring-spinning machines are discussed and brief reference is made to flyerless spinning (abridged spinning method).

THE INTRODUCTION OF QUALITY CONTROL. J. Haworth. Textile Weekly 58(1): 1711-1714 (June 20, 1958). (3638)

The key factors in the application of quality control methods to opening, carding, drawing, and spinning are briefly reviewed.

AN INVESTIGATION OF THE EFFECTS OF SOFTENING AGENTS ON THE SPINNING OF RAMIE FIBER. A. M. Herron. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 73 p. (3639)

YARNS B 5

THE MOTION AND TENSION OF AN UNWINDING THREAD. PART 1. D. G. Padfield (Wool Inds. Research Assoc.). Proc. Royal Soc., A, 245: 382-407 (1958). (3640)

The fluctuating tensions in a perfectly flexible string unwinding from a stationary package are considered, and the dependence of unwinding tensions on air resistance, unwinding speed, angle of winding on the package, number of balloons, angle of conical packages, etc., is examined. Unwinding from rotating packages and from the interior of hollow packages is also briefly considered. Tables. Photographs. Graphs. 10 references.

EFFECT OF TEMPERATURE ON THE TWISTING MOMENT OF NYLON YARN. S. Manago and K. Tanaka (Kanazawa Univ.). J. Textile Machy. Soc. Japan 4: 12-16 (June 1958). In English. (3641)

If heated twisted nylon, acetate, and Terylene yarns are subjected to cooling at a given temperature in the one-time heating process, the twisting moment decreases with the decrease in temperature. In the process of reheating following cooling, the moments of these yarns increase (until the temperature at which cooling was started is reached) along the moment-temperature curves which are identical with the curves representing the cooling effect. Above that temperature the moments change along the curves showing the effect of one-time heating. The effect of temperature on twisted viscose rayon yarn is represented by a single moment-temperature curve. Diagrams. Graphs. 5 references.

KNOTS FOR DU PONT FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 3 p. Bull. X-90 (replaces Bull. X-65). Free. (3642)

Certain knots have proven more effective than others for particular end uses. The purpose of this bulletin is to present these knots and indicate their use. The knots are illustrated both schematically and pictorially. Table. Photographs.

POSITION OF FIBERS IN THE YARN DURING TWISTING. G. V. Sokolov. Faserforsch. u. Textiltech. 9, No. 4: 143-145 (1958). In German. Through BCIRA 38: 462 (1958). (3643)

On the basis of the theoretical layer structure of yarns it could be expected that the behavior of the fibers is identical within each individual layer but differs in the different layers because the peripheral fibers, further removed from the axis, are stretched to a greater extent during twisting. Experiments show, however, that the fibers in the yarn migrate more or less frequently from one layer into the other so that all fibers are subjected to approximately the same stress during twisting. This explains the observation that the tensile strength of a fiber bundle increases within certain limits during twisting, while that of the single fiber is highest in its untwisted state. When calculating the theoretical yarn strength, it must be assumed that all fibers are equally stressed, unless the number of the fibers exceeds a certain optimum.

TEXTURED YARNS. S. T. Price (E. I. du Pont de Nemours & Co.). Can. Textile Seminar Papers 6: 113-118 (1958). (3644)

How du Pont engineered Taslan yarn for specific end-use requirements. Graphs. Diagrams. Tables.

CARPET YARN SYSTEM. James Mackie & Sons Ltd. Skinner's Silk & Rayon Record 32: 877-881 (Aug. 1958). (3645)

The Mackie carpet yarn system is designed to produce high quality long staple carpet yarns from 4-6 in. man-made fibers in a range of counts from 1s to 3s. The system is described in detail. Photographs.

MECHANICS OF TWISTED YARNS: THE INFLUENCE OF TRANSVERSE FORCES ON TENSILE BEHAVIOR. J. W. S. Hearle (Univ. of Manchester). J. Textile Inst. 49: T389-T408 (Aug. 1958). (3646)

An idealized theoretical model of a yarn is assumed, and, after considering the stresses acting on a small element of the yarn, the conditions for radial equilibrium in the yarn are worked out. This leads to expressions for the tensile and transverse stresses in the fibers as functions of: (1) the position in the yarn, (2) the stress which would be present in fibers under the same extension as the yarn, (3) the twist angle of the yarn, and (4) the Poisson's ratio of the fibers. Integration of the components of these stresses parallel to the yarn axis gives an expression for yarn tension. Finally, the behavior when fibers start to break is considered. Diagrams. Graphs. Tables. 13 references.

STRETCH YARN: OPTIMUM NUMBER OF TWISTS. F. Fourné. Melliand Textilber. 39, No. 2: 135-136 (1958). In German. Through BCIRA 38: 393 (1958). (3647)

Comparison is made of twisting formulas (Köchlin, Heberlein, and the more accurate formula derived from the elasticity theory of curved carriers) and it is shown that optimum bulkiness and strength of the yarn and improved capillarity and heat-retention of the fabric made from it results, in practice, from processes in which a stretching possibility of 340-380% is obtained by imparting to the yarn a high twist according to the equation $n \geq 28630/(1 + 15/\text{den.}) \sqrt{\text{den.}}$, fixing, and untwisting it.

VARIATIONS OF COMPOSITION IN FIBER BLENDS. J. E. Ford, T. Murphy, and W. A. Richardson. J. Textile Inst. 49: P368-P378 (Aug. 1958). (3648)

This paper describes an experiment with blended yarns of known composition with the object of determining the greatest difference in average composition that can occur without the development of a visible bar when the component fibers are differently colored. A survey of composition of some cotton/Fibro blends at different mills has shown the differences in composition that can be expected between nominally identical yarns under normally satisfactory spinning conditions. Tables. Diagram. Photographs. 5 references.

FIBER DISTRIBUTION IN BLENDED YARNS: A SUMMARY AND DISCUSSION. A. E. De Barr and P. G. Walker (Shirley Inst.). J. Textile Inst. 49: P353-P367 (Aug. 1958). (3649)

In this paper, it is first shown that several different types of measurement may be required in order to specify fully the distribution of fibers in a blended yarn, and then an attempt is made to assess the progress that has been made since 1952 in the development of methods for obtaining the required information. The published theoretical treatments of the problem are reviewed, and the various criteria of fiber distribution that have been proposed are discussed in the light of the experimental results at present available. A much more systematic program of experimental work is required if the problem of fiber blends is to be understood and suggestions are made for further work in this field and of ways in which the results could be used. 29 references.

MODERN WORSTED SPINNING PRACTICE: SINGLE AND FOLDED YARNS. N. Roper. Textile Mfr. 84: 395-399 (Aug. 1958). (3650)

The amount and direction of twist, twisting, winding for warping and knitting, and yarn conditioning are discussed. Diagrams. Photographs.

STRETCH YARN (CRIMPING MATERIAL). PART 2. F. Fourné. Melliand Textilber. 39, No. 3: 247-253; No. 4: 361-365 (1958). In German. Through BCIRA 38: 463 (1958). (3651)

In continuation of a previous article (see TTD 13: 558/56), the author reviews the further development in the production of crimped yarns, with special reference to the classical method (twisting-fixing-untwisting method), the false-twist method, and the methods for Ban-Lon and Taslan yarn production. A detailed description is given of the false-twist machines used at present, and of the properties of the yarns, and a table is included listing the yarn types, properties, raw materials, producers, methods (diagrams and descriptions), and yarn appearance. 55 references.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

CONING DACRON FILAMENT YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 4 p. Bull. D-99 (replaces Bull. D-86). Free. (3652)

NEW HIGH EFFICIENCY CHEESE WINDING MACHINE. H. Müller-Elsen. Spinner u. Weber 76, No. 7: 382-386; No. 8: 442-444 (1958). In German. Through BCIRA 38: 429 (1958). (3653)

Technical and constructional details are given of the BITROMA high efficiency cheese winding machine (Franz Müller Maschinenfabrik), with special reference to the machine drive, the new bobbin-driving and thread-shifting unit, tension-equalizing means, bobbin holder, hydraulic damping, stop motion, pendulum motion of the cheese, progressively-acting relieving device, combined thread-brake, thread clearer, balloon braker, etc.

UNIFIL: THE NEW CONCEPT OF FILLING PREPARATION. H. R. Kennedy (Universal Winding Co.). Can. Textile Seminar Papers 6: 29-31 (1958). (3654)

The Unifil rewound system of filling preparation is described.

PREVENTION OF YARN LICKING ON QUICK TRAVERSE WINDING MACHINES BY USING SHAFTLESS SPLIT DRUMS. J. Schneider. Melliand Textilber. 39, No. 3: 259-262; No. 4: 375-378 (1958). In German. Through BCIRA 38: 464 (1958). (3655)

In the new construction described, the yarn-guiding element (split drum) has no boss or shaft. The thread-tension compensation, drive of the machine, damping of the bobbin-holder frame, stop motion, balloon breaker, and pneumatic dust-removing installation are described and illustrated.

CLEANLINESS IN TEXTILE MILLS: PIRN WINDING. J. White. Textile Mfr. 84: 385-390, 414 (Aug. 1958). (3656)

Methods of cleaning pirn winders and of avoiding soiling due to pirns, pirn boards, and handling are covered. Photographs.

SLASHING SPUN YARNS OF ORLON ACRYLIC FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1958. 3 p. Bull. OR-93 (replaces Bull. OR-56). Free. (3657)

Size formulations and conditions for slashing yarns of Orlon acrylic fiber are presented.

BIG CYLINDER, HOT AIR, AND SMALL CYLINDER SLASHERS. R. L. Mundhenk (West Point Foundry & Mach. Co.). Can. Textile Seminar Papers 6: 36-41 (1958). (3658)

TOP DRIVE FILLING SPINDLES. R. M. Turner. Textile Inds. 122: 129, 131 (Sept. 1958). (3659)

The advantages of the top drive filling spindle and the problems connected with its use are explained. Diagrams.

WARPER FOR NARROW FABRICS. Gebr. Meyer. Textile Weekly 58(1): 1657 (June 13, 1958). (3660)

Features of the BKS (designed for cross warp winding), BKS B (for sheet warping), and BKS BC (a combination of the first two) are briefly noted. Photograph.

STRESS OF THE WARP THREADS BY THE SEPARATING RODS ON THE SIZING MACHINE. K. Ramaszeder. Deut. Textiltech. 8, No. 4: 189-190 (1958). In German. Through BCIRA 38: 430 (1958). (3661)

It is shown that the additional tensile stress exerted on the yarn during separation of the sized threads can be quantitatively determined and, by suitably adjusting the working speed, the total stress on the yarn can be maintained within certain limits, preventing thereby increased thread-breakage frequencies and the occurrence of overstretching.

WARP SIZING OF ARTIFICIAL AND SYNTHETIC YARNS. J. Schneider. Rayonne et Fibres Synthet. 14, No. 4: 515-520; No. 5: 683-693 (1958). In French. Through BCIRA 38: 430 (1958). (3662)

Various types of warp-sizing machines are described and illustrated.

WARP PREPARATION: AN ART AND A SCIENCE. J. C. Bodansky (Cocker Mach. & Foundry Co.). Can. Textile Seminar Papers 6: 52-57 (1958). (3663)

Warping and slashing and the many variables affecting good warp preparation are discussed. Photographs. Diagrams.

WARPING MACHINE DRIVEN BY VARIABLE SPEED MOTOR AND FRICTION DISCS. J. Bergsen. Melliand Textilber. 39, No. 2: 144-147 (1958). In German. Through BCIRA 38: 394 (1958). (3664)

Constructional details are given for the warping machine, model UZ (Eichler, M. Gladbach) and advantages of the machine, especially in warping rayon yarn, are enumerated.

CONTRIBUTION TO A SYSTEMATIC STUDY OF SIZING. PART 7. EFFECTS OF YARN TENSION DURING SIZING. R. Schutz and S. Marguier. Bull. Inst. Textile France No. 72: 25-29 (1958). In French. Through BCIRA 38: 395 (1958). (3665)

The experiments described show that, regardless of the count and twist of the yarn, the tension should not exceed 20-25 g/thread if the danger of yarn fatigue is to be avoided. This applies to all processing stages: winding, beaming, and sizing (including drying and warping), as well as weaving. The experiments also show the effect of tension on the abrasion resistance of the yarns.

WEAVING C 2

SHIRLEY LOOM. D. C. Snowden. J. Textile Inst. 49: P435-P437 (Aug. 1958). (3666)

Features of the loom are described in detail.

PRESS-BUTTON CONTROL ON THE CARPET LOOM. E. Stauder. Melliand Textilber. 39, No. 2: 153-155 (1958). In German. Through BCIRA 38: 395 (1958). (3667)

Carpet looms equipped with electrical control devices (press-button control, distributing box, contactor and indicating lamp, stop motions) are discussed.

ELECTRICAL WARP STOP MOTIONS IN LINEN AND HALF-LINEN WEAVING. H. Griese. Melliand Textilber. 39, No. 2: 157-160 (1958). In German. Through BCIRA 38: 395 (1958). (3668)

An electrical warp-stop motion is compared with a mechanical drop-detector, with special reference to the advantages of the former with respect to the time required for piecing broken ends.

GUNNE TWO-ROLLER DOBBY. W. T. Swatek. Spinner u. Weber 76, No. 10: 593-595 (1958). In German. Through BCIRA 38: 430 (1958). (3669)

The closed-shed dobby (Gaschitz & Fischer, Günne), described and illustrated, is used successfully in hard fiber weaving.

WEAVING RANGE IN WEAVING MACHINES. J. F. Wirtz. Spinner u. Weber 76, No. 6: 283-285 (1958). In German. Through BCIRA 38: 431 (1958). (3670)

It is shown that the size of the weaving range of automatic loom attachments or weaving machines is of decisive importance for the profitableness of the installation. Factors limiting their weaving range (stress on weft and warp yarn during the weaving process, and limitation due a certain degree of density) are discussed and formulas are given for the calculation of the degree of density, yarn diameter, yarn diameter by taking into account the apparent specific weight, specific weight and apparent specific weights of fibers, and air-weight (porosity) of yarns.

OPTIMUM WEAVE SHED SETTING. H. Bade. Z. ges. Textil-Ind. 60, No. 7: 276-278 (1958). In German. Through BCIRA 38: 465 (1958). (3671)

Shed setting in dependence of the fabric weave, appearance of the fabric, the warp and weft material used, and other factors are discussed, concluding that there is no generally applicable rule for an optimum setting.

NOISE REDUCTION IN THE WEAVING SHED. Shirley Inst. Textile Weekly 58(2): 35-36, 38-39 (July 4, 1958). (3672)

Results of experiments conducted by the Shirley Institute on reduction of overpick loom noise are described.

MILL MAY TIE LOOM OUTPUT CONTROL SYSTEM INTO DATA PROCESSING UNIT. R. E. Bayha (Sperry Rand Corp.). Textile Inds. 122: 62-63 (July 1958). (3673)

The pick counters on a battery of looms have been tied in electronically to a control reporting area where graphs of loom operation are automatically prepared. Loom operation chart.

SELVAGE FORMATION DURING WEAVING WITH STATIONARY WEFT PIRNS. W. Schreiber. Spinner u. Weber 76, No. 8: 449-452 (1958). In German. Through BCIRA 38: 430 (1958). (3674)

Various devices for uniform selvage formation on ribbon looms are described, with special reference to the Seaton, Gabler, Dewas, Sulzer, and Kovo systems.

SOME EFFECTS OF WEAVING TENSIONS ON FABRIC STABILITY. W. C. Knight. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 83 p. (3675)

TEXO LOOM FOR THE MANUFACTURE OF INDUSTRIAL FELTS AND HEAVY FABRICS. K. Bunse. Melliand Textilber. (English ed.) 39, No. 3: 173-180 (1958). (3676)

Constructional details of the Swedish Texo AB model KFT dobby loom are described. Photographs.

MEASUREMENT OF CLOTH ON THE LOOM. K. Wigro. Melliand Textilber. (English ed.) 39, No. 3: 182 (1958). (3677)

The preset counters discussed are classified into the two main groups of pick counters and counters for meter lengths. Photographs.

HENRY J. COOPER WEAVING MACHINE: RECENT DEVELOPMENTS. H. Lanigan. Textile Weekly 58(1): 1797 (June 27, 1958). (3678)

Modifications of the weft supply mechanism are described.

STUDIES ON SPEED-UP AND UNEQUAL RUNNING OF LOOMS. M. Jederán. Periodica Polytechnica (Eng.) 2, No. 1: 19-31 (1958). In English. (3679)

Measurement of unequal running of looms, estimation of loom speed-up, speed-up conditions with direct drive and clutch drive, and unequal operation of the loom with direct drive and with clutch drive are discussed. Graphs. Diagrams. Tables. 3 references.

LETOFF MOTION FOR LOOMS. T. Sakamoto (Enshu Weaving Machy. Co. Ltd). J. Textile Machy. Soc. Japan 4: 44-47 (June 1958). In English. (3680)

A fully-automatic positive letoff motion for looms, developed by the author, is described in this article. The author defines the length of warp letoff by this new device as the displacement of the feeling roller, i.e. as the change of the angle of inclination of the weight lever. It is necessary to know the effects of the change of the angle of inclination of the weight lever on the length and tension of the warp letoff. For this purpose the author has derived theoretical formulas. On the basis of these formulas, the maximum amount of the swing of the weight lever falls within the limits permitted for woven fabrics. Diagrams. Tables. Graphs.

THE PICKING MOTION. W. T. Swatek. Melliand Textilber. 39, No. 2: 147-152; No. 3: 268-271 (1958). In German. Through BCIRA 38: 395 (1958). (3681)

Various constructions of picking motions (depending on and independent of the loom velocity) are reviewed and their advantages and disadvantages are pointed out. Reference is also made to special constructions.

NYLON FOR SMALLWARE WEAVING. Brit. Nylon Spinners Ltd. Textile Weekly 58(1): 1593 (June 6, 1958). (3682)

FREE SHED OPENING AS BASIC FACTOR IN POWER LOOM KINEMATICS. M. Jederán. Periodica Polytechnica (Eng.) 1, No. 3: 277-292 (1957). In English. (3683)

The free shed opening as a basic kinematic parameter of loom construction is defined. A method of definition based on calculations and on designing is given. Effects of other parameters influencing the free shed opening, the energy of picking, and the necessary initial driving velocity of the shuttle are analyzed. It has been shown that the free shed opening seems to determine other kinematic parameters of the loom. Graphs. Tables. Diagrams. 7 references.

EFFECT OF THE SIDE WALLS OF A SHUTTLE ON THE TENSION OF WEFT WITHDRAWN FROM THE SHUTTLE. G. Yoshimura and A. Yoshizaki (Kanazawa Univ.). J. Textile Machy. Soc. Japan 4: 33-37 (June 1958). In English. (3684)

Tension of weft withdrawn from a shuttle is affected by the number of winds per traverse, by the hardness of the yarn layers, by the length and location of the pirn, by the eyelet of the shuttle, by the velocity of withdrawal from the shuttle, and by the side walls of the shuttle. In this study the effect of the side walls, apart from the effect of ballooning, is looked into. Tension of ballooning theoretically increases in proportion to the square of the velocity of withdrawal, but an experimental value shows a smaller value than a theoretical value. This indicates that the effect of friction between the side wall and weft yarn is greater than the effect of the velocity of withdrawal. Diagrams. Tables. Graphs. 5 references.

WEAVING TERRY TOWEL FABRICS. PART 6. H. Barlow. Textile Recorder 76: 68-70 (Sept. 1958). (3685)

The operation and setting of the warp and center weft fork stop motions, drop box motion, and electrical feeler motion on the fully automatic terry towel loom are discussed. Diagrams.

NEW PORCELAIN SHUTTLE THREADING DEVICE. Melliand Textilber. 39, No. 2: 156-157 (1958). In German. Through BCIRA 38: 395 (1958). (3686)

The new automatic threader described is suitable for shuttles in automatic and nonautomatic looms. It has been tried successfully for several weeks on a Saurer loom which operates at 220 picks/min.

BUTIN FOUR-COLOR AUTOMATIC SHUTTLE CHANGER. W. Gade. Melliand Textilber. (English ed.) 39, No. 3: 168-173 (1958). (3687)

The Butin shuttle changer can handle 4 different colors or kinds of weft in connection with picking in pairs. The operation of the mechanism is described in detail. Photographs. Diagrams.

KNITTING C 3

NONBINDING TOP FOR MEN'S HOSIERY. W. Shewmake. Textile Inds. 122: 145, 147 (Sept. 1958). (3688)

Directions are given for forming the Morpul nonbinding top by knitting yarns on top of the sinkers.

PHRIX BR EXTRA RAYON STAPLE FIBER YARNS FOR WARP KNITTING. H. Jäger. Melliand Textilber. (English ed.) 39, No. 3: 184, 186 (1958). (3689)

The properties of these yarns which make them suitable for warp knitting are discussed, and the methods used in producing two illustrated fabrics are described. Fabric swatches.

CONSTRUCTION OF SWISS RIB FABRIC. W. E. Shinn. Knitter 22: 27-32 (Aug. 1958). (3690)

HOSIERY PRODUCTION TECHNIQUES. J. Rest (Brit. Nylon Spinners Ltd). Textile Weekly 58(1): 913-916, 979-982, 1049-1050 (1958). (3691)

Knitting and control techniques are discussed for nylon, crimped and stretch yarn, and Agilon. Photographs. Graphs. Tables.

BAN-LON YARNS IN HALF-HOSE. Brocklehurst-Whiston Amalgamated. Man-Made Textiles 35: 46-47 (Aug. 1958). (3692)

Recommendations for knitting, finishing, and dyeing are given. Photographs.

KIDDE CARPET KNITTING MACHINE. Kidde Textile Machy. Corp. Modern Textiles Mag. 39: 49, 60 (Aug. 1958). (3693)

Among the advantages claimed for carpets knitted on the Kidde raschel machine are: overall production efficiencies of 80 to 90%; long-wearing, ravel-resistant fabrics; no need for separate backing fabric; savings on pile yarn; and pattern and styling flexibility. Photographs.

RECENT DEVELOPMENTS IN RASCHEL MACHINES. D. F. Paling. Textile Recorder 76: 60-62 (Sept. 1958). (3694)

Two classes of Raschel machines are described in detail. One type with a limited number of guide bars is designed specifically for the manufacture of fairly plain constructions such as nets, tulles, power nets, curtain nets, etc., at a very high speed of production. A second type with multiple guide bars is designed essentially for the production of lace edgings, insertions, and allovers at a somewhat lower running speed. Photographs. Diagram.

FABRICS C 4

NEEDLE FELTING. E. F. Didier (Torrington Co.). Textile Inds. 122: 117-118, 203 (Sept. 1958). (3695)

The construction and operation of the needle loom are described, with particular emphasis on the felting needles. Diagrams.

TUFTING CARPET YARNS OF SPUN NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 2 p. Bull. N-111 (replaces Bull. N-24). Free. (3696)

Suggestions for improving quality and efficiency.

KNITTING PILE FABRICS. J. H. Blore. Textile World 108: 66-67, 69 (Sept. 1958). (3697)

Ten methods for knitting pile fabrics on circular and warp knitting machines are described. Photographs.

PILLING OF FABRICS: WAYS AND MEANS OF ITS REDUCTION. PART 1. T. Belleli. Fibres 19: 237-240, 245 (Aug. 1958). (3698)

The general process of pill formation is shown to be due to the slow migration of fibers to the surface of the fabric. Various suggested methods of reducing pill formation are examined, and it is noted that the basis of any method for reducing pilling must be to prevent the fiber migration by increasing interfiber friction. Graphs. 10 references.

NYLON CARPET: GROWTH AND TECHNOLOGY. G. M. Richardson and J. W. Lynch (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 47: P617-P627 (Sept. 8, 1958). (3699)

General dyeing characteristics, specific dyeing methods, twist setting, water twist setting, steam twist setting, finishing, control of fuzzing and pilling, testing for fuzzing and pilling, printing, testing carpet performance, and consumer acceptance of 100% nylon carpeting are discussed. Tables. Graphs. Photograph. 10 references.

MERIT OF FIBER BLENDS, COMBINATIONS: WET PROCESSING AND FASTNESS PROPERTIES. A. Greyborn (Bruck Mills Ltd). Can. Textile Seminar Papers 6: 156-159 (1958). (3700)

Wet processability should be considered when a blended fabric is designed.

FUNDAMENTALS OF LENO DESIGNING. PART 2. E. B. Berry (N. C. School of Textiles). Textile Bull. 84: 39-40, 42-43 (Aug. 1958). (3701)

Elaborate leno weaves, such as tubular fabrics, one-cross-one variations, figured leno, and four-end leno, are described. Diagrams.

VARIATIONS OF THE COMMON TWILL: SOME USEFUL REARRANGEMENTS. Wool Record 94: 28-29 (July 3, 1958). (3702)

DESIGN IN WOVEN STRUCTURE. PART 67. FIGURING WITH TWO OR MORE WEAVES OR COLOR-AND-WEAVE EFFECTS. D. C. Snowden. Wool Rev. 32: 29-30 (Aug. 1958). (3703)

THE DESIGNER'S CHANGING FUNCTION. G. B. Suhrie (Fox-Wells & Co.). Modern Textiles Mag. 39: 57-58 (Aug. 1958). (3704)

The impact of manmade fibers on fabric design is discussed.

FABRIC/FOIL LAMINATES. R. C. Griffin, Jr. Modern Textiles Mag. 39: 30, 61 (Aug. 1958). (3705)

Some of the possible applications, such as awnings, protective garments, etc., are noted.

WOVEN FABRIC STRUCTURE: SATEEN DERIVATIVES. D. C. Snowden. Man-Made Textiles 35: 61 (Aug. 1958). (3706)

Single interlacings in ordered distribution considered as nuclei for the development of complex weaves.

FABRIC DEVELOPMENT AT WORK. J. F. Murray (Chemstrand Corp.). Modern Textiles Mag. 39: 58-59 (Aug. 1958). (3707)

The methods used in constructing new fabric types are briefly described.

TODAY'S TRENDS IN FABRIC DEVELOPMENT. W. E. Scholer (Am. Viscose Corp.). Modern Textiles Mag. 39: 55-56, 60 (Aug. 1958). (3708)

NYLON FISHING TACKLE IN SWEDISH INLAND FISHERIES. G. Molin. Textiles in Ind. 3: 66-67 (Aug. 1958). (3709)

Fishing experiments have proved that continuous multifilament nylon has something like twice the fishing capacity of cotton, and that the monofilament nylon has a fishing capacity about 7 times as good as cotton. Other properties of nylon fishing nets are noted.

RELATIONSHIP BETWEEN THE STRUCTURAL GEOMETRY OF A TEXTILE FABRIC AND ITS PHYSICAL PROPERTIES. D. P. Adams, E. R. Schwartz, and S. Backer. Mass. Inst. of Technol., Cambridge, Mass. Feb. 1957. 25 p. Order from Library of Congress, Photoduplication Serv., Washington 25, D. C. Microfilm $2.70, photostat $4.80. PB 128 414. Textile series report no. 93. (3710)

A simplified nomograph has been designed to permit rapid solution of Peirce's geometric relationships for plain weaves. To illustrate use of the nomograph, several practical problems of cloth structure are presented and worked out in some detail. Advantages and limitations of the nomograph are discussed. Graphs. Table.

ENGINEERING OF FABRICS FROM BLENDS WITH SYNTHETIC FIBERS. R. M. Hoffman and R. W. Peterson (E. I. du Pont de Nemours & Co.). J. Textile Inst. 49: P418-P434 (Aug. 1958). (3711)

This paper covers some of the objectives, principles, and methods of blending fibers as applied to Orlon, Dacron, and nylon. A new method of blending (differential overfeed texturing) is discussed. The improved levels of aesthetic and functional performance which can be achieved are illustrated, with particular regard to cover, handle, resilience, wash-wear, and clothing comfort. Tables. Graphs. Photomicrographs. 13 references.

TEXTILES IN THE ELECTRICAL INDUSTRY. D. G. Hollis (H. D. Symons & Co. Ltd). Textiles in Ind. 3: 62-64 (Aug. 1958). (3712)

One of the main functions of textiles in the electrical industry is to provide a carrier for an insulating varnish, the raw fabric itself possessing only very limited electric strength. This article reviews the properties and applications of textile fabrics currently in use in the electrical industry.

WOVEN FABRICS OF ORLON ACRYLIC FIBER. K. T. Barratt (du Pont Co. of Canada (1956) Ltd). Can. Textile Seminar Papers 6: 96-101 (1958). (3713)

Some of the current applications of Orlon in woven fabrics are described. Tow and staple, conversion methods, yarn types, weaving, and finishing techniques are discussed for various apparel and nonapparel end-uses.

STUDY OF YARN PROPERTIES IN RELATION TO STRUCTURE AND APPEARANCE OF HESSIAN. PART 1. DIAMETER OF YARNS. B. L. Banerjee, B. N. Bhattacharyya, and M. K. Sen (Indian Jute Mills Assoc.). Indian Textile J. 68: 475-479 (May 1958). (3714)

INFLUENCE OF COLORANT SYSTEMS ON THERMAL PROTECTION. PART 1. STUDIES ON A SINGLE-LAYER SYSTEM. PART 2. STUDIES ON A THREE-LAYER FABRIC SYSTEM AT ONE EXPOSURE LEVEL. A. O. Ramsley and F. P. Tully. U.S. Army. Quartermaster Research & Develop. Command. Textile, Clothing & Footwear Div., Quartermaster Research & Develop. Center, Natick, Mass. May 1957. 61 p. Order from Library of Congress, Photoduplication Serv., Washington 25, D.C. Microfilm $3.90, photostat $10.80. PB 129 544. Textile series report no. 97. (3715)

This report considers the manner by which colorants control the rate of energy absorption and the consequences of this absorption at various levels of exposure in a single layer fabric system. A 3-layer system was studied to obtain further information for the design of a hot-dry combat uniform which would afford improved thermal protection. Photographs. Diagram. Graphs. Tables.

CLOTH WINDER MECHANISMS. T. Inoue, T. Daikuhara, T. Nishioka, and M. Omori (Kyoto Univ.). J. Textile Machy. Soc. Japan 4: 38-43 (June 1958). In English. (3716)

The authors have studied the elongation of cloth and its distribution due to winding operations, and experimentally compared, by three methods (positive, negative, and "pressure"), the effects of tension and load upon the tightness of cloth layers. From the viewpoint of the number of revolutions, the thickness of cloth layers, etc., negative winding seems the best, but the control of roller weight and tension for stable winding is not easy. Diagrams. Graphs.

THE TRUTH ABOUT NYLON AND RAYON TIRES. A. J. White (Motor Vehicle Research Inc.). Consumer Bull. 41: 2, 18-20 (Sept. 1958). (3717)

The performance of nylon-cord tires is compared with that of rayon-cord tires, and the advantages and disadvantages of each are considered.

SATURATION BONDED NONWOVEN FABRICS. F. M. Buresh. Textile Bull. 84: 27-30 (Aug. 1958). (3718)

This discussion covers in detail the type of nonwoven fabric manufacture known as pad or saturation bonding. Included is a description of an actual mill installation of a 60 in. fabric width nonwoven fabric line. Photographs. Diagram.

DEVELOPMENT AND EVALUATION OF WEBBING MADE FROM NYLON 6. R. J. Neff. Phoenix Trimming Co., Chicago, Ill. Mar. 1958. 54 p. Order from Office of Technical Services, Washington 25, D. C. $1.50. PB 131 832. (3719)

This investigation showed that the webbings manufactured from regular 210 denier type 6 nylon have slightly lower breaking strength and were susceptible to heat degradation at lower temperature than webbings presently being used by the Air Force which utilize the type 66 nylon. The webbings manufactured using the type 6 modified 840 denier yarn appeared to be equal in strength and superior in their resistance to heat degradation up to a temperature of 300° F. Graphs. Tables.

USE AND IMPORTANCE OF SYNTHETIC FIBERS IN TUBULAR BRAIDING. K. Heinze. Deut. Textiltech. 8, No. 3: 140-145; No. 4: 191-194 (1958). In German. Through BCIRA 38: 431 (1958). (3720)

The use of synthetic fibers in the production of shoe laces is discussed (with detailed description of the process) and the strength and abrasion resistance of Perlon shoe laces are compared with those of cotton products to show the advantages of the former over the latter.

DEVELOPMENT OF THE CORDUROY WEAVE. R. W. Wiechmann. Melliand Textilber. 39, No. 2: 161-165 (1958). In German. Through BCIRA 38: 395 (1958). (3721)

The development of corduroy fabrics for a great variety of uses and the construction of the weaves are reviewed.

TEXTILES AS A MEDICAL PROBLEM. H. Baron. Melliand Textilber. 39, No. 3: 331-333 (1958). In German. Through BCIRA 38: 482 (1958). (3722)

Experiments on animals showed that the physical forces of capillary drainage and of surface compression applicable by means of surgical textiles render them valuable wound-healing agents. "Texatraum" in particular is a special fabric from pure cellulose with remarkable adhesion-preventing tendency, so that the air having access to the wound is able to accelerate drying of the wound surface.

FINISHING AND CHEMICAL PROCESSING D

USE OF RESINS IN WEAVING MILLS. H. Zeitler. Deut. Textiltech. 8, No. 5: 267-271 (1958). In German. Through BCIRA 38: 430 (1958). (3723)

The use of resins and plastics in machine components, tools, sizing agents, etc., is reviewed. 25 references.

DYEING AND FINISHING OF SYNTHETIC FIBERS. H. Rath. Deut. Textiltech. 8, No. 4: 201-204 (1958). In German. Through BCIRA 38: 435 (1958). (3724)

Static electrification and its prevention, antistatic preparations, dust-adhesion prevention, measurement of electrostatic charges, chemical setting of polyamide fibers, antipilling finishes, dyeing of polyacrylonitrile and polyester fibers, and milling of wool/synthetic fiber blends are discussed.

TABLE OF TEXTILE ASSISTANTS. St. Jost. Textil-Rundschau 13, No. 5: 292-304 (1958). In German. Through BCIRA 38: 434 (1958). (3725)

This table lists optical bleaching agents, complex formers, delustering agents, softeners and other dressing agents, anticrease and antishrink finishes, flameproofing, antistatic and water-repellent agents, insecticidal and fungicidal finishes, foam-inhibitors, coating agents and pigment binders, wool-chlorinating agents, and emulsifiers.

PROGRESS MADE IN THE DYEING OF TEXTILE MATERIALS. L. S. Thompson (Gen. Dyestuffs Co.). Can. Textile J. 75: 39-44 (Aug. 8, 1958). (3726)

The latest types of equipment and methods being used for preparation, dyeing, and finishing are described.

FUTURE GOALS IN THE FIELD OF DYEING AND FINISHING. J. B. Goldberg. Can. Textile J. 75: 66-70, 73-74 (Sept. 5, 1958). (3727)

Recent developments in dyeing and finishing, with emphasis on some unorthodox dyeing systems, are briefly reviewed, and probable future trends are discussed.

FURS AND PRINCIPLES AND PRACTICES OF FUR PROCESSING. H. Biberfeld (A. Hollander & Son Ltd). Can. Textile J. 75: 64-69 (Aug. 22, 1958). (3728)

This paper outlines the origins and development of furs and the fur industry. Included as well are data on structure of the fur skin, fur processing, dyeing, bleaching, and finishing.

DYEING AND FINISHING DACRON TYPE 64 POLYESTER FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 12 p. Bull. NP-4. Free. (3729)

MEASUREMENTS OF PRESSURE DISTRIBUTION BETWEEN METAL AND RUBBER COVERED ROLLERS. G. J. Parish. Brit. J. Appl. Phys. 9: 158-161 (Apr. 1958). (3730)

Measurements of pressure distribution in the nip between a metal roller and a roller consisting of a thin rubber cover on a metal shell under various conditions of load, cover hardness and cover thickness are described. The results, although in qualitative agreement with Hannah's theory, show appreciable deviations from the quantitative theoretical predictions, and the possible causes of this discrepancy are discussed. Graphs. Tables. 6 references.

CHEMICAL PROCESSES D 1

STORK ROPE-O-MATIC. Gebr. Stork NV. Melliand Textilber. (English ed.) 39, No. 3: 206, 208 (1958). (3731)

See abstr. 2939/58.

APPLYING INDUSTRIAL INSTRUMENTS TO WET PROCESSING CONTROL. W. H. Ridley (Foxboro Co.). Can. Textile Seminar Papers 6: 75-80 (1958). (3732)

ANTISEPTICS FOR THE PRESERVATION OF TEXTILES AND TEXTILE ASSISTANTS. W. Ebert. Deut. Textiltech. 8, No. 5: 259-260 (1958). In German. Through BCIRA 38: 438 (1958). (3733)

A series of antiseptics is listed and discussed (inorganic and organic compounds and commercial products) which, on the basis of their chemical properties and technical applicability, are suitable for use as bactericidal or at least rot-preventing textile finishes, as well as for incorporation as preserving agents in sizes, glues, starch preparations and printing-paste thickenings. The advantages of Preventol products are pointed out especially.

CHEMICAL SHRINKAGE AND WEAR VALUE. R. Steidl. Spinner u. Weber 76, No. 6: 290-292 (1958). In German. Through BCIRA 38: 436 (1958). (3734)

It was found that the tensile strength of fabrics is practically unaffected by chemical shrinkage when only small amounts of resin are used. The abrasion resistance, which in unwashed fabric is lower as compared with the untreated material, improves with each washing so that the wear value remains almost unaffected. There is a relationship between the degree of condensation and shrink-resistance which is expressed by the reduced abrasion resistance in unwashed fabric. Weave, dyed or bleached yarn, and other factors may have a greater adverse effect on the tensile strength of certain articles than the small amounts of resin used in chemical shrinkage. Practical wear tests showed that the wearability and durability of chemically-shrunk fabrics are equal to those of materials not impregnated with resins. Chemically-shrunk cotton fabrics dry after washing much quicker than fabrics not impregnated with resins.

THE SEPARATOR IN THE TEXTILE INDUSTRY. G. Prahl. Spinner u. Weber 76, No. 3: 132-134 (1958). In German. Through BCIRA 38: 436 (1958). (3735)

The use of separators in the purification of mercerizing liquors is discussed and their advantages are pointed out.

PROBLEM OF CHLORINE-RETENTIVE FABRICS IN THE LAUNDRY. C. H. Bayley and A. S. Tweedie. Can. Textile J. 75: 55-57 (Aug. 22, 1958). (3736)

The problems of chlorine-retentive fabrics and the use of hydrogen peroxide bleaching in commercial laundering operations to avoid complaints on these fabrics are discussed.

HEMMER RAPID WASHER SLD 180. H. Viktor. Melliand Textilber. (English ed.) 39, No. 3: 208, 210 (1958). (3737)

The rapid washer SLD 180 is for the washing of fabrics in rope form. The outstanding features of this machine are: nozzle system, speed (150 and 200 m/min), pressure control by adjusting the nip of the wash rollers, temperature control, large-volume washing trough, continuous inspection of the goods during the washing process. Diagram. Photograph.

THE DEVELOPMENT OF A DURABLE HEAT-RESISTANT FINISH FOR TEXTILES. J. R. Carlisle. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 73 p. (3738)

RENEWABLE CALENDERED FINISHES ON COTTON TEXTILES. P. K. Chheda. Indian Textile J. 68: 470-474 (May 1958). (3739)

Print cloth was roller calendered and friction calendered after bleaching and poplin was chase calendered. Processing data are presented and analyzed and the different fabrics and finishes compared.

BACTERIOSTATIC TREATED FABRICS. I. Schwartz (Bendiner & Schlesinger Labs.). Can. Textile J. 75: 59-60 (Aug. 22, 1958). (3740)

After a discussion of bacteriostatic treatment, a tentative method adopted by AATCC for evaluating bacteriostatic properties is described.

SHRINK-RESIST PROCESS FOR WOOL. Wool Inds. Research Assoc. Textile Weekly 58(1): 1594 (June 6, 1958). (3741)

Wool or wool-containing materials are treated in a mixed solution containing peracetic acid and sodium hypochlorite under either acid or alkaline conditions, depending on the type of material to be processed. The material is cleared by the addition of sodium bisulfite, and a rinse in cold water completes the process. All the treatment is carried out at 50° -65° F (10° -18° C) on normal dyehouse equipment.

PRESHRINKING OF COTTON TEXTILES. N. P. Palaniappan. Indian Textile J. 68: 538-542 (June 1958). (3742)

Sanforizing and the Rigmel process are reviewed. Diagrams.

HIGH TEMPERATURE BLEACHING OF COTTON PACKAGES IN THE FORM OF WARP BEAMS, CHEESES, AND CARD SLIVERS. W. Grunwald. Z. ges. Textil-Ind. 60, No. 8: 345-348 (1958). In German. Through BCIRA 38: 467 (1958). (3743)

In this review, the author discusses the water used in the bleaching processes, bleaching agents, and precleaning of the yarn, with special reference to hydrogen peroxide, sodium hypochlorite, sodium chlorite, and combined hydrogen-peroxide and chlorite bleaching. Aftertreatment (treatment with optical bleaching agents and softening) is briefly outlined and special mention is made of the advantages of bleaching card slivers, cheeses, and warp beams on high temperature equipment.

THE DEGRADING EFFECTS OF TRACE METALS IN THE HYDROGEN PEROXIDE BLEACHING OF COTTON. S. D. Snyder. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 80 p. (3744)

EFFECT OF WOOL POROSITY ON THE SCOURING AND DRYING PROCESS. PART 1. H. Sanuki (Tokyo Univ.). J. Textile Machy. Soc. Japan 4: 17-23 (June 1958). In English. (3745)

The mechanics and efficiency of the scouring and drying of greasy wool vary with its degree of openness. The author reports the results of experimental measurements and analyses of wool "porosity." Graphs. Diagrams. 3 references.

BLEACHING OF COTTON YARN WITH SODIUM HYPOCHLORITE AND PEROXIDES BY THE PACKAGE SYSTEM. J. C. Sanchez and L. V. Albert. Ingenieria Textil 25, No. 130: 25-49 (Jan./Feb. 1958). In Spanish. Through BCIRA 38: 467 (1958). (3746)

The results obtained in the experiments described indicate that bleaching with hypochlorite alone gives a medium degree of whiteness and that, for higher requirements, it is necessary to resort to peroxide bleaching. Fiber tendering is smaller than in hypochlorite bleaching. The cost of chemicals for peroxide bleaching is 2.5-3 times that for hypochlorite bleaching.

CHLORITE BLEACH ACTIVATION. E. Rüedi. Melliand Textilber. (English ed.) 39, No. 3: 186-190 (1958). (3747)

The author discusses various activated chlorite bleach baths described in the literature, and then describes the Stoffel process and its advantages. In this process the activator is derived from the reaction of the thermosplitting of ammonium salts or salts of organic bases with strong inorganic or organic acids. 9 references.

CONTINUOUS PEROXIDE BLEACHING: COST REDUCTION. H. G. Smolens. Textile Inds. 122: 79-80 (Sept. 1958). (3748)

In two previous articles (abstr. 1303/57 and 1271/58) changes and tests for reducing costs were outlined. From the new procedure described in this article, additional benefits can be realized. It involves the application of a hypochlorite treatment between the caustic stage and the peroxide stage and is claimed to produce a reduction of 50% or more in peroxide usage.

EXPERIMENTS WITH SODIUM CHLORITE IN BLEACHING OF COLORED ARTICLES. W. C. Braun. Melliand Textilber. 39, No. 2: 175 (1958). In German. Through BCIRA 38: 397 (1958). (3749)

In a previous publication (see abstr. 1276/58), the author reported a sodium chlorite bleaching method consisting in padding the material on a padder from V4A-steel and rolling it up and leaving it in a wooden steaming chamber heated with direct steam. The experiments on colored materials (table cloths) were carried out in the same installation, using "sodium chlorite Hoechst" at a concentration of 30 g/l. The method is described; the results are claimed to be satisfactory.

FINISHING OF SPUN RAYON FABRICS. E. Elöd. Reyon, Zellwolle u. Chemiefasern No. 2: 110-115 (1958). In German. Rayonne et Fibres Synthet. 14, No. 5: 657-681 (1958). In French. (3750)

A review of 31 literature references.

HEAT TREATMENT OF SYNTHETIC FIBERS FOR INDUSTRIAL TEXTILES. Man-Made Textiles 35: 44-45 (Aug. 1958). (3751)

The heat treating of nylon with a tannic acid/formaldehyde resin for press cloth usage, and methods of heat setting Terylene to produce dimensionally stable industrial fabrics are discussed in this article. Examples of the effects of the treatments on fabric performance are included.

PROBLEMS CONCERNED WITH THE SOILING OF TEXTILE FIBERS AND MATERIALS. B. C. M. Dorset. Textile Mfr. 84: 418-422 (Aug. 1958). (3752)

Following some preliminary observations about soiling and the determination of the degree of soiling, reference is made to some investigations on antisoiling treatments, e.g. colloidal silica-alumina for cotton, Juvenon R, oxides of aluminum and silicon, and fluorocarbon chemicals. Graphs.

WASH AND WEAR FABRICS: APPEARANCE AFTER HOME LAUNDERING. AATCC Comm. on Wash & Wear. Am. Dyestuff Reptr. 47: P578-P580 (Aug. 25, 1958). (3753)

AATCC tentative test method 88-1958. Standard photographs.

REACTIONS OF CELLULOSE WITH GLYOXAL. F. S. H. Head (Shirley Inst.). J. Textile Inst. 49: T345-T356 (July 1958). (3754)

Viscose rayon fabrics can be made shrink- and crease-resistant by a number of processes, and it is commonly supposed that this dimensional stabilization results from cross-linking of the cellulose chains, though no really convincing evidence has ever been produced. One of these processes uses glyoxal, and, since this lends itself to chemical investigation, the application of glyoxal to cotton cellulose has been studied. The results show that it is practically certain that cross-linking does occur. Tables. 12 references.

EVALUATION OF ALIQUAT H226 SOFTENING AGENT. L. Elmquist (Gen. Mills Inc.). Fibres 19: 251-252 (Aug. 1958). (3755)

Results of tests on the effectiveness of Aliquat H226 for use in the last rinse of commercial laundering are presented.

COSTS OF PARTIALLY ACETYLATING COTTON. H. K. Gardner, Jr. (So. Reg. Research Lab.). Textile Inds. 122: 100-104 (Sept. 1958). (3756)

Three preliminary cost estimates for the production of PA cotton yarn and fabric are presented. The cost estimates are for processing "by contract" and exclude the cost of untreated cotton yarn or fabric. Each cost estimate includes calculated unit service charges for processing including profits, at levels representing investment payout periods of 2 and 5 years. Tables. Diagrams. 8 references.

PINONIC ACID AS A MERCERIZING PENETRANT. H. B. Summers, Jr. and G. W. Hedrick (Naval Stores Research Station). Am. Dyestuff Reptr. 47: 571-573 (Aug. 25, 1958). (3757)

Pinonic acid when mixed with butyl cellosolve was found to be an effective wetting agent for cotton in strong caustic solutions and compares favorably with cresylic acid-butyl cellosolve mixtures. Almost instantaneous wetting speeds, 1.5 sec or less, of cotton over a range of caustic concentrations and temperature suggest that pinonic acid might be useful as a mercerizing penetrant. Practical mercerizing tests to evaluate such factors as stability, foaming tendency, caustic recovery, exhaustion rate, effect in cotton, etc., have not yet been determined. Graphs. Table. 4 references.

EVOLUTION IN FINISHING TECHNIQUES. PART 4. RAYON LININGS. F. Wood. Man-Made Textiles 35: 63-64 (Aug. 1958). (3758)

The requirements of rayon linings are noted, and the fillings and finishing techniques used to achieve the requisite characteristics are described.

EXAMINATION OF FABRICS TREATED WITH FINISHING AGENTS. W. Weltzien and P. Vogel. Reyon, Zellwolle u. Chemiefasern No. 2: 115-120 (1958). In German. Through BCIRA 38: 399 (1958). (3759)

After a brief general review of creaseproofing agents and auxiliaries, the authors discuss the processes taking place during finishing (raw material, resin deposition, drying, condensation) and the testing of the finished fabric, with reference to (1) the resin (qualitative and quantitative determination, nature of deposition and uniformity of distribution, state of condensation, stability of the finish), (2) the effect on the fabric (crease resistance, strength and elongation, relative knot strength, abrasion resistance, swelling value, shrink resistance, permanency of the effects, colorfastness, and durability of calendering effects), and (3) the effects obtained by special finishes (water repellency, wet creasing, and chlorine retention of the resin-impregnated fabric).

COMBINED WATER REPELLENT AND CREASE- AND SWELLING-RESISTANT FINISHING OF TEXTILES. H.-G. Conrad. Z. ges. Textil-Ind. 60, No. 7: 284-285 (1958). In German. Through BCIRA 38: 477 (1958). (3760)

Factors to be taken into consideration when combining water-repellent, creaseproofing, and swelling-reducing finishes on textiles from regenerated cellulose are discussed, with special reference to the use of aminoplasts and softening agents, the latter improving the handle of the impregnated fabric. The impregnation of the fabric is effected by the usual creaseproofing method, for which the following stages are required: impregnation and padding, drying, and condensation, the condensation time and temperature depending upon the type of precondensate used..

INFRARED TESTS ON RESIN FINISHED CELLULOSE HYDRATE FILMS. W. Bandel. Melliand Textilber. 39, No. 2: 204-211 (1958). In German. Through BCIRA 38: 400 (1958). (3761)

Infrared spectrograms of viscose films finished with urea, melamine, acrylic, polyvinyl, and epoxy resins are given to show that a chemical bond is formed only with the epoxy resins. In formalized films, it was also possible to show reduction in the number of free OH-groups. A relationship was found between the washfastness of the finishes and the existence of a chemical linkage between cellulose and resin. Means for improving the fastness of the finish are pointed out.

RESINS FOR WASH-AND-WEAR FINISHES. H. C. Borghetty. Modern Textiles Mag. 39: 40-44, 71 (Aug. 1958). (3762)

After discussing the development of wash-and-wear cottons, the author describes the use of resin finishes for rayon, nonwoven fabrics, wool, and the stabilization of fabrics by backfilling techniques. 4 references.

POLYEPOXIDE RESIN FINISHES. A. J. Hall. Fibres 19: 241-245 (Aug. 1958). (3763)

The chemistry, properties, and application of epoxy resins to cotton, rayon, and wool are described. Graphs. Tables.

DYEING AND PRINTING D 2

CHEMICAL MODIFICATION OF FIBERS AND DYES. H. Rath. Textil-Rundschau 13, No. 5: 282-292 (1958). In German. Through BCIRA 38: 434 (1958). (3764)

The author discusses the principles and mechanism of acylation and alkylation; water-soluble alkylating agents (e.g. onium compounds splitting off the alkylating group, bifunctional water-soluble cross-linking agents, pyridinium and sulfonium compounds); the use of onium compounds in cross-linking of wool keratin, aftertreatment of sulfur and substantive dyeings, and alkylation of cellulose; and the incorporation of water-soluble polymerizable onium compounds into the fiber. All these reactions open up the possibility of binding chemically to the fiber dyes which as such have no affinity for the fiber. During discharge of the dyeing, part of the dye remains on the fiber and can be again diazotized and coupled. The new reactive dyes (Procion, Cibacron) are compounds to which the ability to react with cellulose is imparted by the incorporation of a cyanuric chloride ring.

FACTORS ASSISTING IN OBTAINING FAVORABLE RESULTS BY DYEING WITH DIRECT DYES. E. M. Taylor. Rayonne et Fibres Synthet. 14, No. 4: 501-514 (1958). In French. Through BCIRA 38: 434 (1958). (3765)

The theory of dyeing with direct dyes is described and variables affecting the process of dyeing cotton and rayon fabrics, e.g. temperature, quantity and circulation of the liquid, properties of the dye, reduction of the dyes during dyeing, and hard water, are enumerated and discussed.

NEW EXPERIENCES AND FINDINGS DURING DYEING WITH CIBACRON DYES. M. Peter. SVF Fachorgan Textilveredlung 13, No. 4: 184-193 (1958). In German. Through BCIRA 38: 398 (1958). (3766)

The development and characteristics of Cibacron dyes are described and the experiences gained in pad-dyeing are reviewed, with special reference to the pad-jig, pad-roll, pad-steam, single-bath steam, and thermofixing methods. The problem of eliminating the dye not bound chemically by the cellulose, the applicability of the exhaust process, and the fastnesses of Cibacron dyeings are examined.

SYNTHESIS AND EVALUATION OF NEW DYESTUFFS FOR HYDROPHOBIC FIBERS. S. M. Hong. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 46 p. (3767)

ORGANIC PIGMENTS: MASS DYEING OF MANMADE FIBERS. F. M. Smith (Geigy Co.). Texture 5: 93-95 (June 1958). (3768)

The possible use of pigments in the spin dyeing of various manmade fibers is briefly discussed.

SYNTHESIS AND EVALUATION OF NEW DYESTUFFS FOR HYDROPHOBIC FIBERS. R. F. Johnson, Jr. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 27 p. (3769)

ABSORPTION SPECTRA OF AMINOANTHRAQUINONES. H. I. Stonehill (Medway Coll. of Technol.). (Letter to the editor). J. Soc. Dyers Colourists 74: 585 (Aug. 1958). (3770)

PLANT EXPERIENCE IN THE APPLICATION OF REACTIVE DYESTUFFS. K. J. Bardt and Z. Vlcek (Ciba Ltd). Can. Textile Seminar Papers 6: 143-151 (1958). (3771)

Reactive dyes based on monohalogenated cyanuric compounds are discussed. Tables. Graphs.

THE PROBLEM OF MECHANICAL DYEING IN THE LABORATORY. J. Wegmann. SVF Fachorgan Textilveredlung 13, No. 5: 238-247 (1958). In German. Through BCIRA 38: 472 (1958). (3772)

The laboratory apparatus described was developed for dyeing loose material, hanks, and fabrics by the exhaustion method (at temperatures ranging from 20-100° C and liquor ratio 1:10), as well as carrying out all necessary pre- and aftertreatments. The apparatus is based on the principle of stationary dyebath and mechanically agitated material. Experiences with cellulosic, wool, and synthetic fibers are discussed.

CHEMISTRY AND TECHNIQUE OF DYEING POLYACRYLONITRILE FIBERS BY THE COPPER (I)-ION METHOD. PART 2. THE COPPER (I)-CØMPLEX METHOD. H. Rath and E. Specht. Melliand Textilber. 39, No. 3: 281-282 (1958). In German. Through BCIRA 38: 472 (1958). (3773)

In order to eliminate the use of reducing agents in the dyebath, which is associated with considerable disadvantages for the dyeing process, an attempt was made to use the copper in its monovalent state. Copper complexes of aliphatic and aromatic nitriles, e.g. of acetonitrile, acrylonitrile, hydracrylonitrile, benzonitrile, salicylic acid nitrile, phthalic acid nitrile, etc., were found to be suitable for this purpose.

AROMATIC AMMONIUM COMPOUNDS FOR DYEING POLYESTER FIBERS. E. Baier. Z. ges. Textil-Ind. 60, No. 7: 283-284 (1958). In German. Through BCIRA 38: 471 (1958). (3774)

In dyeing polyester fibers according to the naphthol principle, dye bases (aromatic amines) are used in dispersed form and coupled to azo dyes with Developer ON by the hot-diazotizing method (modified diazo technique). Dyeings of approximately the same depth are obtained by using aqueous solutions of the chlorhydrates of certain fast dye bases in acid medium.

HELIZARIN DYES IN SCREEN PRINTING. H. Kühn. Melliand Textilber. 39, No. 3: 297-298 (1958). In German. Through BCIRA 38: 474 (1958). (3775)

Various Helizarin printing paste compositions are given by means of which it is possible to shorten the drying time of the print. Viscosity of the paste, catalyst and emulsifying agent used, drying time, and fixing temperature are briefly discussed.

LIGHT NAPHTHANILIDE PIECE DYEINGS. H. Broglin and H. Herzog. SVF Fachorgan Textilveredlung 13, No. 4: 203-206 (1958). In French. Through BCIRA 38: 398 (1958). (3776)

It is shown that fast-to-boiling pastel-shade piece-dyeings with satisfactory light fastness can be obtained on cotton fabrics by a suitable choice of Naphthanilide/Fast Base (or Diazo-Fast-Salts) combinations. Thirty-four such combinations are listed.

DYEING OF TERGAL BY THE CARRIER METHOD AND THE EFFECT OF CARRIERS ON THE MECHANICAL AND PHYSICAL PROPERTIES OF THE FIBER. J. Lyonnet. Rev. Textile 56, Nos. 9/10: 593-599 (1957); 57, No. 1: 26-30; No. 2: 60-67; No. 3: 117-120; No. 4: 181-188 (1958). In French. Through BCIRA 38: 435 (1958). (3777)

In this review the author discusses the nature and properties of carriers, their effect on the physical properties of Tergal (polyethylene terephthalate) fiber, dyeing by the carrier method, and the effect of carriers on the yield of various dyes. Experimental results are discussed and it is concluded that the carriers should be defined as textile assistants which make it possible to improve the yield of plastosoluble dyes by swelling the Tergal fiber. 23 references.

METHODS FOR THE PRODUCTION OF COLORED EFFECTS ON POLYESTER DYEINGS. G. Bernardy and H. Wirth. Melliand Textilber. 39, No. 3: 292-297 (1958). In German. Through BCIRA 38: 475 (1958). (3778)

Various known processes are reviewed (colored discharge, discharge-resist, and resist methods), with special reference to the introduction of the insoluble zinc-formaldehyde sulfoxylate (Decrolin) as discharging agent in combination with triethanolamine, the intensification of the discharging action of soluble Decrolin by stannous chloride and anthraquinone, and the simplification of the discharge-resist process by using emulsion printing dyes.

RESISTING OF TRIACETATE IN MIXTURES WITH COTTON IN INDANTHREN DYEING. J. Müller (Cassella Farbwerke Mainkur AG). Melliand Textilber. (English ed.) 39, No. 3: 190-198 (1958). (3779)

Triacetate has higher resistance to saponification than 2 1/2-acetate. In mixed fabrics composed of triacetate and cellulosic fibers, it is possible to dye the latter with vat colors without any staining of the triacetate as a result of partial saponification. Data concerning the suitability of various Indanthren vat dyes are presented.

FAST-TO-WASHING DYEING OF WOOL YARN. J. F. Gaunt (Patons & Baldwins Ltd). J. Soc. Dyers Colourists 74: 569-583 (Aug. 1958). (3780)

The requirements of the various trades using fast-dyed yarn are considered, and an outline is given of the developments in dyes and dyeing machines leading to the present-day position. Advances have been made in dyes, dyeing machines, and dyeing methods, and these have been complementary. These aspects are discussed separately, and attention is drawn to complications which have arisen as a result of the adoption of new methods. Tables. 27 references.

DYEING OF THE NEWER SYNTHETIC FIBERS. J. G. Graham. Can. Textile J. 75: 46-52 (Aug. 8, 1958). (3781)

The dyeing properties of the best known fibers from each of the important classes of manmade fibers are discussed, e.g. polyamide fibers (nylon 6 and 66), polyester fibers (Terylene and Dacron), polyacrylic fibers (Orlon and Acrilan), and triacetate rayon (Tricel and Arnel).

DYEHOUSE DON'TS. PART 2. W. C. Dodson. Textile Bull. 84: 44-47 (Aug. 1958). (3782)

Difficulties caused by air contamination, improper lighting, and inaccurate dye scales and balances, as well as some unusual sources of damaged goods, are described.

DYEING OF TRIACETATE/WOOL UNIONS. Textile Weekly 58(1): 1665, 1667 (June 13, 1958). (3783)

Recommended dyestuffs, dyeing methods, dyestuffs for wool component, and production of blacks are discussed.

DYEING OF WOOL WITH 2:1 METAL COMPLEX DYES. H. Egli and E. Walther (Sandoz Ltd). Am. Dyestuff Reptr. 47: 574-576 (Aug. 25, 1958). (3784)

Although 2:1 metal complex dyes applied to wool from a neutral dyebath give very satisfactory colorfastness, the relatively high pH values (6.5-8) may result in fiber damage. Various procedures have been introduced in an effort to safeguard the fiber, at the same time utilizing the advantages to be gained by the application of these dyes. One of the most recently developed of these procedures is reported on with relevant data in connection with the recommended auxiliary products. Graphs. Photomicrographs.

CONTINUOUS DYEING OF SYNTHETIC FIBERS AND BLENDS. J. J. Iannarone and W. J. Wygand (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 47: P585-P587 (Aug. 25, 1958). (3785)

Continuous procedures are discussed for Dacron, Orlon, and nylon blends. 21 references.

MECHANISM OF DYEING ORLON 42 ACRYLIC FIBER. T. Vogel, J. M. A. DeBruyne, and C. L. Zimmerman (Am. Cyanamid Co.). Am. Dyestuff Reptr. 47: P581-P584 (Aug. 25, 1958). (3786)

A thermodynamic study was made of the mechanism by which Orlon 42 is dyed with cationic dyes. This study is supplemented by dyeing rate determinations and microscopical examinations of the dyed fiber. A new series of cationic dyes for Orlon 42 is also discussed. Graphs. Photomicrographs. 3 references.

PETER GRIESS: A HUNDRED YEARS OF HIS DIAZO REACTION. D. H. Wilcox, Jr. (Tenn. Eastman Co.). Am. Dyestuff Reptr. 47: 539-546, 562 (Aug. 11, 1958). (3787)

STUDY OF DYEING OF WOOL PRETREATED TO PRODUCE CONTRAST EFFECTS. A. M. Parikh. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 61 p. (3788)

DYEING DARVAN DINITRILE FIBER. H. G. Sommar (B. F. Goodrich Chem. Co.). Am. Dyestuff Reptr. 47: P553-P560 (Aug. 11, 1958). (3789)

After pointing out the uses for Darvan, its structure, and properties related to dyeing, the author discusses the dyeing of dinitrile fibers with disperse, developed acetate, cationic, and some naphthol dyes. The use of carriers and pressure-dyeing techniques is discussed in conjunction with disperse and cationic dyes on the material. Graphs. Tables. 6 references.

DYEING OF NATURAL SILK WITH PROCION DYESTUFFS. Imp. Chem. Inds. Ltd. Textile Weekly 58(1): 1805-1806, 1808 (June 27, 1958). (3790)

A NEW METHOD FOR PRODUCING TWO-COLOR AND TWO-TONE EFFECTS ON WOOL FABRICS. D. J. Davis. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 47 p. (3791)

A STUDY OF THE DYEING OF WOOL PRETREATED TO PRODUCE CONTRAST EFFECTS. O. M. Anderson. Master's thesis, Georgia Inst. of Technol., Atlanta, Ga. 1958. 78 p. (3792)

FIXATION OF REACTIVE DYES ON MODIFIED CELLULOSES. T. L. Dawson (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Soc. Dyers Colourists 74: 584-585 (Aug. 1958). (3793)

PROCESSING OF ARNEL/COTTON BLENDS BY COTTON DYEHOUSE PROCEDURES. W. A. Schoeneberg, G. C. Ward, and J. S. Warner (Celanese Corp. of Am.). Am. Dyestuff Reptr. 47: P655-P661 (Sept. 22, 1958). (3794)

The minor changes which should be made when a cotton fabric containing Arnel is processed through the cotton dyehouse are discussed. In addition, a method for dyeing the Arnel portion of an Arnel/cotton fabric using a pad-steam range is covered. By combining this procedure with normal cotton-dyeing methods, a wide range of effects can be obtained, including cross dyeing, union dyeing, and reserves. Photograph. Graph. Diagram. Tables. 11 references.

CONTINUOUS AND TIME-LAPSE MOTION PICTURES THROUGH MICRODYESCOPES. H. E. Millson (Am. Cyanamid Co.). Can. Textile Seminar Papers 6: 152 (1958). (3795)

MODERN HYDROEXTRACTING METHODS IN THE DYEING INDUSTRY. Fibres 19: 253-256 (Aug. 1958). (3796)

The basic principles of hydroextraction are explained, and the application of hydroextractors to dyeing are described.

APPLICATION OF SULFUR DYESTUFFS TO YARN AND PIECE GOODS. W. E. Wood. Textile Mfr. 84: 423-425 (Aug. 1958). (3797)

The important factors involved in jig and package dyeing, and in the open beck, sulfide, soda/hydros, pad/jig, and pad/steam methods are discussed.

PENETRATION TEST FOR RESISTANCE TO PRESSURE DYEING. R. L. Wormell (Courtaulds Ltd). J. Textile Inst. 49: T384-T388 (Aug. 1958). (3798)

An apparatus simulating the conditions set up during pressure dyeing is described. The fibers to be tested are cut to short staple, opened and blown to random state, and allowed to form a bed inside a specially designed penetration chamber. A specific hydrostatic pressure (5 lb/sq in.) is maintained by a mercury safety valve giving constant head. The curves obtained by plotting the time of treatment against the time for a standard small volume of liquor to flow, are characteristic of the fibers tested. Both protein and nonprotein fibers have been examined. Photograph. Diagram. Table. Graphs.

USE OF CONDENSED PHOSPHATES IN TEXTILE PRINTING. K. Schuster. Melliand Textilber. (English ed.) 39, No. 3: 198-202 (1958). (3799)

The behavior of condensed phosphates in Rongalite-free and Rongalite-containing print pastes is discussed.

ALGINATES IN THE TEXTILE INDUSTRY. PART 2. METHODS OF APPLICATION. PART 3. PRINTING METHODS WITH SPECIAL REFERENCE TO ALGINATES. H. Schulzen. Z. ges. Textil-Ind. 60, No. 8: 326-329; No. 11: 481-488 (1958). In German. Through BCIRA 38: 474 (1958). (3800)

Having discussed the importance of seaweed and the chemistry of alginic acid in previous articles, the author reviews in part 2 the uses of alginates in printing, pointing out their advantages and disadvantages, means for overcoming the latter, and textile assistants stabilizing alginate solutions (organic and inorganic complex formers, Calgon, etc.). Part 3. Uses of vat and vat ester dyes (direct printing, Colloresin process, flash-aging, vat-print fixing method), azo dyes, Rapid Fast dyes, substantive dyes (padding, discharging), Sulfur Black, oxidation dyes, etc., in printing pastes incorporating alginates, are discussed.

THE PRACTICAL IMPORTANCE OF A pH MEASURING PLACE IN THE DYEING PLANT. R. Graeub. Melliand Textilber. 39, No. 2: 179-181 (1958). In German. Through BCIRA 38: 398 (1958). (3801)

It is recommended that pH measurements should be made directly in the dyeing plant in a place equipped with sample cooler and rinsing means. Redox measurements could be effected in the same manner. A list of publications referring to the use of pH measurements and to theoretical principles of pH and redox measurements is appended.

RECENT FINDINGS DURING PRINTING WITH CIBACRON DYES. H. Werdenberg. SVF Fachorgan Textilveredlung 13, No. 4: 193-199 (1958). In German. Through BCIRA 38: 399 (1958). (3802)

The Cibacron dyes make it possible to obtain brilliant shades on printed cellulose and animal fibers. The dyes, which combine with the fiber directly in the presence of alkalis at high temperature, are fixed so that they can be removed neither by solvents nor by washing at boiling temperature. Preparation of the thickenings and of the printing paste, fixing and finishing of the prints, combination of Cibacron dyes with other dye classes, and discharge and resist printing are discussed.

PATTERNS ON TUFTED CARPETS. Brit. Tufting Machy. Ltd. Textile Weekly 58(1): 1601-1602 (June 6, 1958). (3803)

Features of a new tufted carpet printing machine and process are described. Diagram. Photographs.

MECHANICAL PROCESSES D 3

NAPPING OF TEXTILE FABRICS. C. S. Whewell and D. C. Snowden (Univ. of Leeds). Can. Textile Seminar Papers 6: 21-28 (1958). (3804)

Napping machinery and the mechanism of napping, as well as the effect of factors such as cloth structure, milling, moisture, acids and alkalies, neutral salts, dyeing, and lubricants, are discussed. Tables. Graphs. 7 references.

HEAT TREATMENT OF TRIACETATE FABRICS. Man-Made Textiles 35: 64, 66 (Aug. 1958). (3805)

The reasons for heat setting Tricel fabrics, recommended methods, and the testing of the finish are briefly discussed.

EMBOSSING FABRICS OF DU PONT NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 2 p. Bull. N-113 (replaces Bull. N-71). Free. (3806)

Embossed and calendered effects without the use of resins.

MEASURING AND ROLLING OF TEXTILE FABRICS. Melliand Textilber. 39, No. 2: 199-201 (1958). In German. Through BCIRA 38: 400 (1958). (3807)

Various constructions of cloth rolling and measuring machines are described and illustrated.

AUTOMATION IN SHEARING MACHINE CONSTRUCTIONS. M. Vollenweider. Melliand Textilber. 39, No. 2: 201-203 (1958). In German. Through BCIRA 38: 400 (1958). (3808)

The fully automatic Super-Duplo fabric-cleaning and shearing machine (Sam. Vollenweider AG) is described and illustrated.

TESTING AND MEASUREMENT E

STATISTICAL APPROACH IN DEVELOPING TEST METHODS. G. Switlyk (E. I. du Pont de Nemours & Co.). Am. Dyestuff Reptr. 47: P628-P630 (Sept. 8, 1958). (3809)

Some concepts of statistical design that are appropriate for use in the development of new test methods are given. It is emphasized that any statistical design is tailor-made to answer the specific questions raised by a consideration of the overall objective. Once the proper plan for collecting data is resolved, the analysis is usually straightforward. Tables. Graph. 5 references.

AUTOMATION OF TEXTILE TESTING DEVICES. H. Perner. Faserforsch. u. Textiltech. 9, No. 3: 94-101 (1958). In German. Through BCIRA 38: 481 (1958). (3810)

Requirements to be satisfied by modern testing devices (testing under standard conditions, working speed, simplified servicing) are discussed, with reference to the first attempts of mechanizing testing devices such as the Moscrop yarn tester, the Autodynamograph according to Pagnacco, the Uster dynamometer, the Frenzel-Hahn tensile-strength tester, etc. Stipulations for the improvement or automation of textile testing devices are enumerated and an example is given to show that an automatic tensile-tester of suitable construction leads to increased productivity per testing device and attendant, relieves the attendant of work which can be carried out by mechanisms, and eliminates subjective errors. 22 references.

CHEMICAL ANALYSIS IN CONJUNCTION WITH MICROSCOPY. W. Kunze. Reyon, Zellwolle u. Chemiefasern No. 4: 270-276 (1958). In German. Through BCIRA 38: 402 (1958). (3811)

Directions are given for analytical work carried out with the aid of a microscope, with special reference to the preparation of crystal precipitates on the slide, and to identification reactions and explanations of the microphotographs showing the respective precipitates obtained.

MILL TEST PROCEDURES. N. L. Enrick (Inst. of Textile Technol.). Rayon Pub. Corp., N. Y. 1958. 54 p. $3.50. (3812)

Tests covering the cotton, woolen, worsted, and synthetic filament systems of yarn manufacture, slashing, weaving, and knitting. Purpose, sampling, step-by-step method, and evaluation of each test are described, as used in the control of quality, waste, and production. Includes illustrative worksheets, test data, standards and tolerances, nomographs, and tables as an aid in test analysis.

HUNGARIAN TEST INSTRUMENTS. Budapest Textile Research Inst. Skinner's Silk & Rayon Record 32: 852-853, 855 (Aug. 1958). (3813)

Among the instruments described and illustrated are an automatic cotton grader, an electronic moisture meter, an automatic fiber length tester, a fiber flexing device, a ballistic tester, a fatigue tester, a torque tester, a vibration type fabric fatigue tester, a Flexometer, for studying factors influencing stiffness or elasticity, an instrument for studying the heat absorption characteristics of fabrics, and instruments for studying bleaching and dyeing processes.

FIBERS E 1

DESIGN OF A BALLISTIC TESTER AND EXPERIMENTS CARRIED OUT WITH IT ON THREE TYPES OF MATERIALS. C. Nanjundayya and R. L. N. Iyengar (Indian Central Cotton Comm.). Indian Cotton Growing Rev. 12: 142-149 (May 1958). (3814)

Experiments were carried out on pulling out a bunch of fibers from the seed, on work of rupture of fiber bundles, and on work of rupture of singles cotton yarn. Diagrams. Tables. 4 references.

AUTOMATION OF STRENGTH TESTING OF FIBERS. H. Perner. Reyon, Zellwolle u. Chemiefasern No. 4: 264-270 (1958). In German. Through BCIRA 38: 403 (1958). (3815)

It is shown that automation of tensile strength testing on fibers is justified in view of the economical, technical, and labor saving factors. The individual operations during tensile testing of fibers, hair, and bristles (dry and wet testing) are discussed and an automatic experimental model is described and illustrated and compared with the Deforopt tester (operating on the principle of constant load increase) and the Schopper tester (pendulum principle). The new model operates on the principle of constant elongation.

AUTOMATIC TENSILE TESTER FOR FIBERS. H. Perner. Faserforsch. u. Textiltech. 9, No. 3: 102-109 (1958). In German. Through BCIRA 38: 481 (1958). (3816)

An embodiment of an automatic fiber tester in the form of an experimental model is described and compared with the Deforopt and Schopper testers. It is found that the automatic model not only eliminates subjective factors and gives more reliable measuring values, but also exhibits an increased capacity as compared with the previous devices (1 1/2 - 3 1/2 times higher without additional work for the operator).

FIBER FINENESS: HOW MANY TESTS? F. G. Ernest. Textile Inds. 122: 97-99, 104 (Sept. 1958). (3817)

This study shows that micronaire testing of two samples per bale exceeds the requirements of the formula recommended by ASTM. One test per bale can be considered adequate, provided a variation of $\pm$ 0.1 or less from the true mean in 75% of all bales is satisfactory, and provided that a variation of 0.2 to 0.4 in 25% of all bales is not considered excessive. Tables.

RAW MATERIAL CONTROL. B. Whitehead. Textile Weekly 58(1): 1714, 1716 (June 20, 1958). (3818)

The why, what, and how of cotton fiber testing for quality control in the spinning mill are summarized.

DETERMINATION OF WOOL FIBER FINENESS BY THE AIR-FLOW METHOD. J. Textile Inst. 49: P326-P331 (July 1958). (3819)

Tentative textile standard no. 51, 1958.

PHYSICAL MEASUREMENTS AND THEIR APPLICATION IN DESCRIBING WOOL. D. D. Johnston and others. U. S. Agri. Mktg. Serv., Washington 25, D. C. July 1958. 51 p. Mktg. research report no. 256. Order from Superintendent of Documents, Washington 25, D. C. 35¢. (3820)

The purpose of this study was to show the use of physical measurements in describing domestic wool. In order to accomplish this aim 21 lots of domestic wool were processed into top. Samples of grease wool, scoured wool, card sliver, carding and combing wastes, noil and top were drawn as the lots were processed. Such physical characteristics as fineness, length, staple crimp, yield, and color were tested and their application in the description and appraisal of wool studied. Tables. Graphs. 26 references.

STRUCTURE AND MECHANICAL PROPERTIES OF VEGETABLE FIBERS. PART 2. A MICROEXTENSOMETER FOR THE AUTOMATIC RECORDING OF LOAD-EXTENSION CURVES FOR SINGLE FIBROUS CELLS. L. C. Spark, G. Darnbrough, and R. D. Preston (Univ. of Leeds). J. Textile Inst. 49: T309-T316 (July 1958). (3821)

The paper describes the performance of a microextensometer for the automatic recording of load-extension curves of single vegetable fibers. The total final load can be varied up to at least 40 kg/mm^2 and the extension at full scale deflection can be varied from less than 1% to about 100%. Sample load-extension curves of two sisal fibers are presented to show the wide variation of mechanical properties with the molecular structure of the fiber wall. Diagrams. Graphs. 1 reference.

SINGLE FIBER TELLS A STORY. Chem. Eng. News 36: 40-41 (Sept. 1, 1958). (3822)

Dow's single fiber testing program is briefly described. Its object is to predict fabric properties.

IMPROVED AUTOMATIC STOPPING DEVICE FOR MACKENZIE TYPE TESTER OF SINGLE FIBERS. S. Fujimoto, T. Mukai, and K. Nakamura (Teikoku Rayon Co. Ltd). J. Textile Machy. Soc. Japan 4: 27-32 (June 1958). In English. (3823)

The strength-measuring indicator of the MacKenzie type tester stops automatically at the instant of fiber breakage, but to measure the breaking extension, the instantaneous position of the extension-measuring indicator must be observed. By combining a spring and a weight, the authors have made a device which automatically stops the extension-measuring indicator at the instant of fiber breakage. The device has been completed by a partial improvement of the existing tester. The extension-measuring indicator of the new device stops with a lag of about 0.2 mm. It lessens the measurer's fatigue, reduces the observer's errors, and measures with greater accuracy the value of breaking extension. Photographs. Diagrams. Tables.

DISTINGUISHING ORLON FROM OTHER ACRYLIC AND RELATED FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1958. 3 p. Bull. OR-92 (replaces Bull. OR-48). Free. (3824)

YARNS E 2

OPTICAL REGULARITY TESTING ON THE RUNNING THREAD. W. Friedemann. Deut. Textiltech. 8, No. 3: 152-155; No. 4: 173-178 (1958). In German. Through BCIRA 38: 444 (1958). (3825)

Two new methods for electrooptical measurements of yarn regularity on the running thread are explained and the apparatus is described. The suitability of the methods, especially for testing very fine filaments, is shown on diagrams registered for specially-constructed model filaments. The measurements concern either the thread diameter or the cross-sectional area of the filament, the latter being particularly suitable for plant control purposes on account of their excellent reproducibility. For evaluating the diagrams, an attempt is being made to combine the apparatus with an electrical integrator.

YARN REGULARITY MEASUREMENT. J. Munksgaard. Tidsskr. f. Textiltek. 16, No. 5: 79-84 (1958). In Danish. Through BCIRA 38: 482 (1958). (3826)

Methods for determining short-period yarn regularity (visual, microscopic, photoelectric, mechanical measurement of yarn thickness, direct weighing of cut-off lengths, capacitance methods, twist-regularity measurement, strength-regularity determination) are reviewed and compared to establish a relationship between the respective variation coefficients.

PILLING: ITS CONTROL AND LABORATORY MEASUREMENT. E. K. Brickenden (Can. Inds. Ltd). Can. Textile Seminar Papers 6: 91-95 (1958). (3827)

Suggestions are made for avoiding pilling and the ICI tumble tester for measuring pilling propensity is described.

COUNTING OF NEPS AND THICK PLACES IN YARN. M. Pavek. Textil 13, No. 4: 138 (1958). In Czech. Through BCIRA 38: 444 (1958). (3828)

The apparatus and method described make it possible to register all neps regardless of their size, and also to count neps (and thick places in the yarn) of certain sizes by suitable adjustment of the scanning boards.

CRIMPING TENDENCY OF YARNS AND THREADS AND ITS DETERMINATION. S. Ploch and K. Wolf. Deut. Textiltech. 8, No. 3: 135-137 (1958). In German. Through BCIRA 38: 444 (1958). (3829)

The method described makes it possible to determine with sufficient accuracy the crimping (snarling) tendency of yarns during processing. For single yarns, a linear relationship can be assumed for a certain twist range. A crimp factor of 4.5 was found to cause no interferences in the weaving process. For 2-ply yarns it was found that, at certain constructions (ratio of the basic twist to yarn twist in the same or opposite direction), a balanced yarn is obtained, which shows no internal tensions and, consequently, no crimping tendency. Other constructions give S- or Z-crimps according to whether the twist tension of the single thread or of the yarn predominates in the yarn system.

FABRICS E 3

SIMPLIFIED APPARATUS FOR MEASUREMENT OF THE CREASE ANGLE OF WOVEN FABRICS: SOME MEASUREMENTS MADE ON TERLENKA/WOOL WOVEN GOODS. J. Lako and L. S. Veer. Enka Breda Rayon Rev. 12: 67-72 (July 1958). (3830)

PLEAT RETENTION IN BLENDED FABRICS: METHODS OF ASSESSMENT. G. E. Chadwick (Shirley Inst.). (Letter to the editor). J. Textile Inst. 49: T409-T410 (Aug. 1958). (3831)

The test is used to measure the resistance to the removal of a crease by wetting, by mechanical action while the cloth is dry, and by mechanical action while the cloth is wet. The methods adopted are intended to cover the range of conditions that pleated materials may encounter in use and laundering. The test has been applied to specimens creased by heat and pressure under particular conditions, but it may be applied to specimens pleated in any other way.

A METHOD OF EXPRESSING FABRIC HAND. S. Kakiage (Gumma Univ.). J. Textile Machy. Soc. Japan 4: 59-61 (June 1958). In English. (3832)

This is a report of the results of an attempt to express fabric hand in numerical values as close to the feel to the hand as is possible. The feel of blended and resin-finished fabrics has been expressed with these values and compared with values for standard fabrics. By folding and pressing fabrics, changes in their thickness were expressed in numerical values equal to the amounts of work. Such numerical values agreed with the feel to the hand. They also clarified some property indiscernible by hand. Diagrams. Graphs. Photographs. 2 references.

SEMIMICROQUANTITATIVE ANALYSIS OF COPPER 8-QUINOLINOLATE. A. D. Baskin, J. Bubernak, S. P. Reynolds, J. B. Oakes, and H. D. Lyster (U.S. Army Quartermaster Research & Eng. Center). Am. Dyestuff Reptr. 47: 603-608 (Sept. 8, 1958). (3833)

A demonstration of uneven deposition of fungicide on cellulosic materials as a major variable in deterioration evaluation. Tables. Graphs. 13 references.

INDUSTRIAL ENGINEERING F

AIRLESS SPRAY PAINTING FOR THE TEXTILE MILL. J. Lawing. Textile Bull. 84: 47-49 (Aug. 1958). (3834)

Spray painting is practical in textile mills through use of airless spray painting and a newly developed paint. The operation of the Nordson system is described. Diagram. Photograph.

NEW MILL DESIGN. PART 1. OLD MILL MODERNIZATION. H. M. Rogers and J. R. Potter (Lockwood Greene Engrs. Inc.). Can. Textile Seminar Papers 6: 65-74 (1958). (3835)

The evolution of textile mill design is discussed. After an account of the modernization of an old, outdated cotton mill, the planning and design of a new modern finishing plant is described.

IMPROVING OF MAINTENANCE MECHANICS THROUGH A FORMAL TRAINING PROGRAM. J. Henry (du Pont Co. of Canada (1956) Ltd). Can. Textile Seminar Papers 6: 62-64 (1958). (3836)

The need for a training program at du Pont of Canada Ltd and its organization are discussed briefly.

MATERIALS HANDLING IN THE TEXTILE INDUSTRY. A. S. Wrobleski (Can. MonoRail Co. Ltd). Can. Textile Seminar Papers 6: 58-61 (1958). (3837)

OPERATIONS RESEARCH AND HOW IT CAN BE APPLIED IN THE PAPER INDUSTRY. H. B. Wolfe (Arthur D. Little Inc.). Paper Trade J. 142: 42-47 (Sept. 22, 1958). (3838)

Examples of the application of OR techniques.

MANAGEMENT PRINCIPLES AND PRACTICES. B. A. C. Hills (Urwick, Currie Ltd). Can. Textile Seminar Papers 6: 86-90 (1958). (3839)

OPERATIONS RESEARCH SHOWS HOW TO FIND THE BEST LOT SIZE. I. Heitner (Western Elec. Co.). American Machinist 102: 114-115 (Aug. 11, 1958). (3840)

Nomographs for finding optimum lot size under various setup costs and inventory carrying charges.

MACHINERY AND MAINTENANCE F 1

BALL AND ROLLER BEARING LUBRICATION. Texas Co. Lubrication 44: 101-113 (Aug. 1958). (3841)

Advances in ball and roller bearing lubrication during recent years are discussed. Graphs. Photographs. 32 references. Trouble-shooting chart.

NEW TYPE AIR CONDITIONING SYSTEM IN DUTCH TEXTILE MILLS. J. Grindrod. Textile Mfr. 84: 392-393 (Aug. 1958). (3842)

The Econ-O-Mist supersaturation system is based on the principle that air can hold more water than is expressed by 100% rh. Part of the moisture content of the air is not present as vapor but in the form of "atomized" water.

TYPE XA LINT-FLOW INDUCTION MOTOR. Mitsubishi Elec. Mfg. Co. Ltd. J. Textile Machy. Soc. Japan 4: 62-63 (June 1958). In English. (3843)

This motor is ventilated by a double-end method, and is so designed that lint does not stick to the cooling air passing through it. Diagram.

QUALITY CONTROL F 3

MODERN METHODS OF TEXTILE QUALITY CONTROL: A NEW VIEWPOINT. F. A. Gnaedinger (Canadian Celanese Ltd). Can. Textile Seminar Papers 6: 128-132 (1958). (3844)

Use of control charts. Graphs.

QUALITY AUDIT: NEW APPROACH TO QUALITY IMPROVEMENT. Textile Weekly 58(1): 1509-1510, 1579-1582, 1598 (1958). (3845)

In the "quality audit," data are mainly collected for the quality indicator "ends down." Analysis of data is broken down into (1) cleanliness, (2) machine conditions, (3) operator ability and methods of working, (4) atmospheric conditions, and (5) yarn quality. In the collection of data, the system relies not only on observations but also on the suggestions made by the operatives themselves.

MANAGEMENT CONTROLS. G. B. Lawrence, H. Wallwork, and E. A. Antrobus (Hamilton Cotton Co. Ltd). Can. Textile Seminar Papers 6: 119-127 (1958). (3846)

An outline of the past and present of management controls and a look at the future to determine what controls management must be prepared to accept, what it should demand, and what testing equipment manufacturers, machinery manufacturers, and systems consultants must be prepared to provide.

HOW 32 MILLS ORGANIZE QUALITY CONTROL. D. S. Hamby. Textile World 108: 130 (Aug. 1958). (3847)

Answers to a questionnaire are briefly summarized.

SCIENCES G

CHEMISTRY G 1

MOVEMENT OF WATER THROUGH APPAREL TEXTILE SYSTEMS. N. R. S. Hollies, H. Bogaty, C. J. Monego, and J. H. Donegan, Jr. U.S. Army. Quartermaster Research & Develop. Command. Textile, Clothing & Footwear Div., Quartermaster Research & Develop. Center, Natick, Mass. May 1957. 81 p. Order from Library of Congress, Photoduplication Serv., Washington 25, D.C. Microfilm $4.80, photostat $13.80. PB 132 922. Textile series report no. 96. (3848)

Part 1 describes a number of laboratory methods considered useful in analyzing the movement of liquid water and water vapor in fabrics. The methods are applied to blended fabrics of various fiber materials made in a wide variety of constructions. The results indicate that it is the type of structure rather than the chemical nature of the fiber used in making the yarns or fabric which influences the overall response to water. Part 2 is concerned with the mechanisms of moisture transfer between layers of fabrics in an assembly. Photographs. Diagrams. Graphs. Tables.

VISCOSITY BEHAVIOR: PERIODATE- AND HYPOCHLORITE-OXIDIZED STARCHES. R. L. Mellies, C. L. Mehltretter, and I. A. Wolff (Northern Utilization Research & Develop. Div., USDA). Ind. Eng. Chem. 50: 1311-1314 (Sept. 1958). (3849)

Differences in gelatinization rate and temperature, and in paste appearance may be related to the kind and degree of modification. More highly oxidized members of the two series gelatinize rapidly and break down as rapidly. At low oxidation levels a carbonyl group is about equal to a carboxyl group in the effect on viscosity. Graphs. Tables. 17 references.

POLYMER DEPOSITION ON CELLULOSE. J. E. Cook. Doctor's dissertation, Northwestern Univ., Evanston, Ill. July 1957. 57 p. (3850)

An explanation was sought in this investigation for the observation that ethyl acrylate can be polymerized in or on cellulosic materials in such a way as not to be extracted by solvents in which the polymer is normally soluble. Graphs. Tables. 11 references.

EFFECT OF COMMERCIAL LAUNDERING ON CEU-TREATED COTTON FABRICS. L. V. Mazzeno, Jr., R. M. H. Kullman, R. M. Reinhardt and J. D. Reid (So. Reg. Research Lab.). Am. Dyestuff Reptr. 47: 609-613 (Sept. 8, 1958). (3851)

An untreated control, cloth finished with CEU (dimethylol cyclic ethyleneurea), and with a CEU-acrylate-silicone formulation were subjected to commercial laundering at 4 locations to determine the effect of this type of laundering on resin-treated cotton fabrics. The durability of the physical properties was very good to laundering in which the souring step was well controlled. Tables. Graphs. 13 references.

SOLUBILIZATION: A MICELLAR PHENOMENON. J. C. Harris (Monsanto Chem. Co.). J. Am. Oil Chemists Soc. 35: 428-435 (Aug. 1958). (3852)

The ability of dilute surfactant solutions to solubilize water-insoluble substances to form stable systems is termed solubilization. The mechanism, methods for measurement, and temperature effect are reviewed. Surfactant structure and solubilizates, and the principles of solubilization involved, are discussed in detail. The application of solubilization to detergency operations is discussed broadly. It is concluded that solubilization is a minor, difficultly measurable factor in the large majority of aqueous cleaning operations. 76 references.

PHYSICAL CHEMISTRY OF HIGH POLYMERS. M. L. Huggins. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. 1958. 175 p. $6.50. (3853)

This book extends the concepts of classical physical chemistry to systems containing large molecules. The author describes, in detail, the molecular structures of synthetic and natural high polymers (including proteins). Emphasis is on fundamental principles and on the explanation of properties in terms of molecular structure. Recent important work in this field is described, including the author's previously unpublished theory of the dependence of the thermodynamic properties of polymer solutions on the sizes, shapes, and structures of the component molecules. Extensive references.

NEW METHOD FOR DETERMINATION OF ACETYLATION RATES. H. W. Kircher. Anal. Chem. 30: 1540-1543 (Sept. 1958). (3854)

This paper presents a new method for determination of the rate of acetylation with acetic anhydride of cellulose, three hexose sugars, and two butyl alcohols. Diagram. Graphs. 20 references.

EMULSIONS IN TEXTILE TECHNOLOGY. P. Becher (Atlas Powder Co.). Am. Dyestuff Reptr. 47: P548-P552, P561 (Aug. 11, 1958). (3855)

A discussion of the fields of application of emulsions in textile technology, emulsion stability, emulsion instability, emulsifying agents, production of emulsions, and emulsions for textiles. Graphs. Tables. 16 references.

SUSPENDING ACTION BY DETERGENTS IN THE ABSENCE OF SUBSTRATE. J. C. Harris (Monsanto Chem Co.). Am. Dyestuff Reptr. 47: 435-441 (June 30, 1958). (3856)

Suspended materials and general test methods, particle characteristics affecting suspending action, explanation of suspending action, detergent application of suspension studies, and factors in suspending action are discussed. Graphs. Tables. 28 references.

WITH GLYCERINE FROM FIBER TO FABRIC. PART 2. E. A. Parolla and C. Z. Draves. Am. Dyestuff Reptr. 47: 643-654 (Sept. 22, 1958). (3857)

This review of the literature of applications of glycerine covers resin finishes, dyeing and printing, alkyds in printing and dyeing, and miscellaneous textile uses. 91 references.

PHYSICS G 2

RELATIONSHIPS BETWEEN STRUCTURE AND ACTIVITY OF ANTISTATIC AGENTS. PARTS 1 AND 2. M. Bühler. Textil-Praxis 12, No. 11: 1142-1149; No. 12: 1234-1245 (1957). In German. Through BCIRA 38: 99 (1958). (3858)

In this review, the author discusses the nature of the electrostatic charge, electrostatic charges in the textile industry, measuring methods and preliminary experiments, determination of antistatic activity of individual preparations on polyacrylonitrile fibers, and interpretation of experimental results. 49 references.

NUCLEAR ENERGY: A NEW TOOL FOR THE TEXTILE INDUSTRY. H. A. Rutherford (N. C. State Coll.). Am. Dyestuff Reptr. 47: P410-P412 (June 16, 1958). (3859)

Radiochemical techniques might apply to plant process control, analytical problems, and to problems where tracers might be used. Several examples of these applications are given. 14 references.

PROTECTION AGAINST FALLOUT RADIOACTIVITY. E. E. Massey. Can. Textile J. 75: 59-61 (May 16, 1958). (3860)

Hazards from exposure to gamma radiation consist of three types: internal, contact, and external. The principal value of textile fabrics in fallout protection is to prevent the fallout dirt from contaminating the skin and as protection against heat effects.

PROBLEMS OF ANTISTATICS. H. Weigand. Reyon, Zellwolle u. Chemiefasern No. 11: 768-772 (1957). In German. Through BCIRA 38: 99 (1958). (3861)

Experimental results are given to show that some of the theories on static electricity and its elimination are not generally applicable.

USE OF BETA-RAY TO ELIMINATE ELECTROSTATIC CHARGE FROM TEXTILE MATERIALS. K. Nishioka (Kanazawa Univ.). J. Textile Machy. Soc. Japan 4: 24-26 (June 1958). In English. (3862)

The author suggests a new method of eliminating static electricity from textiles by means of beta-ray irradiation. A guide roller which contains some beta-ray sources below its circumference, which is covered with any metallic thin plate, is used for the purpose. If any textile having an electrostatic charge is passed over the guide roller, static electricity is discharged by beta-ray irradiation and immediately removed by its ionizing action. The results of experiments are given. Graphs. Diagrams.

BIOLOGY G 3

MODEL FOR THE DETERIORATION IN STRENGTH OF MATERIALS DUE TO FUNGAL ATTACK. J. S. Maritz. Biometrics 13, No. 4: 433-441 (1957). Through BCIRA 38: 255 (1958). (3863)

A mathematical model is developed and related to the loss of strength of cotton duck (proofed with copper naphthenate) exposed to attack by chaetomium globosum.

OCCURRENCE OF MYROTHECIUM ON FIELD COTTON. A. N. J. Heyn (Clemson Coll.). (Letter to the editor). Textile Research J. 28: 444-445 (May 1958). (3864)

The author reports that by using other than customary substrates, cellulose-destroying fungi not reported so far can be isolated from field cotton. 12 references.

MISCELLANY H

GERMAN INDUSTRIAL FAIR HANNOVER 1958. Spinner u. Weber 76: 844-860 (July 1958). In English. (3865)

Machinery to be exhibited at the German Hannover Fair is described under the headings: spinning machinery, preparatory equipment and accessories for weaving, weaving, and textile finishing machines.

SOME ASPECTS OF TEXTILE RESEARCH IN BELGIUM. D. de Meulemeester. J. Textile Inst. 49: P317-P325 (July 1958). (3866)

Emsley lecture.

TEXTILE PROGRESS AND TEXTILE RESEARCH. W. A. Newell. Textile Forum 16: 7-11, 19 (Apr. 1958). (3867)

MEN'S PREFERENCES FOR COTTON, WOOL, AND OTHER FIBERS IN SELECTED CLOTHING ITEMS. D. B. Levine. U. S. Agri. Mktg. Serv., Washington 25, D. C. 123 p. Mktg. research report no. 244. Order from Superintendent of Documents, Washington 25, D. C. 60¢. (3868)

[WATER:] YOUR MOST IMPORTANT RAW MATERIAL. E. P. Partridge. Am. Soc. for Testing Materials, 1916 Race Street, Philadelphia 3, Pa. 1958. 27 p. (3869)

Edgar Marburg Lecture, 1957, presented before the 60th annual meeting of the Am. Soc. for Testing Materials. Photographs. Diagrams. 25 references.

FULL-FASHIONED HOSIERY INDUSTRY IN THE U. S. A. J. D. de Haan. Mouton & Co., The Hague, Netherlands. 1957. 188 p. $3.50. In English. (3870)

History, raw materials, technical organization, equipment trends, industry structure, marketing, location of the industry, locational shift of the industry, labor, unionization, capital, taxation, water supply, climate, power and fuel, overproduction, and future. Bibliography, p. 177-182.

WASH AND WEAR, DO YOU DARE? J. Labarthe (Carnegie Inst. of Technol.). Can. Textile Seminar Papers 6: 153-155 (1958). (3871)

The need for quality standards for wash-and-wear is emphasized. A table shows du Pont, Good Housekeeping, and AATCC test methods.

WHAT MARKETING MEANS TO MILL MANAGEMENT. R. M. Ashner (Werner Textile Consultants). Can. Textile Seminar Papers 6: 81-85 (1958). (3872)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

PATENTS: FIBERS/YARN PRODUCTION
Abstr. 3873 - 3877

PATENTS: YARN PRODUCTION
Abstr. 3878 - 3882

FIBERS A

MAN MADE FIBERS A 2

CELLULOSE ACETATE CRIMPED FIBERS. D. Finlayson and B. Krzesinski (to Brit. Celanese Ltd). BP 796 344, June 11, 1958. Through BCIRA 38: 460 (1958). (3873)

A tow of cellulose triacetate filaments is crimped by the stuffing box technique and the "crimp retentivity" (defined) is increased by the action of dry heat, wet steam, hot water, or an organic swelling agent, which action increases the degree of crystallinity of the triacetate.

STAPLE FIBERS FROM POLYETHYLENE TEREPHTHALATE FILAMENTS. Vereinigte Glanzstoff Fabriken AG. BP 796 557, June 11, 1958. Through BCIRA 38: 461 (1958). (3874)

A bundle of filaments of the Terylene type is continuously (1) sprayed to charge it with 4-10% of water, (2) passed through a stretching zone filled with steam, (3) washed under tension in hot water, (4) dressed with oil, (5) crimped by passage through a stuffing box, (6) dried without tension, (7) tensioned briefly in two stages, the second much more severe than the first, and (8) cut to staple.

HIGH LUSTER CELLULOSE ACETATE. D. W. Raynolds (to Eastman Kodak Co.). USP 2 843 449, July 15, 1958. (3875)

High luster filaments with a 6-lobe cross section are produced by passing the spinning solution through 6-pointed star shaped orifices and drying the filaments while subjecting them to drafting.

YARN PRODUCTION B

THREADING-IN PARALLEL ENDS. E. J. Griset, Jr. (to Am. Enka Corp.). USP 2 844 859, July 29, 1958. (3876)

Threading-in apparatus for the handling of yarns fed continuously from the spinning bath through aftertreating baths to drying rollers.

TOW CRIMPER OF THE NIP-ROLLS AND STUFFING-BOX TYPE. M. Sonnino (to Am. Cyanamid Co.). USP 2 846 729, Aug. 12, 1958. (3877)

CONCENTRATES CONTAINING SILICA FOR THE PREPARATION OF AGENTS FOR IMPROVING THE SPINNABILITY OF FIBERS. Badische Anilin & Soda Fabrik AG. BP 794 990, May 14, 1958. Through BCIRA 38: 393 (1958). (3878)

Silica aerogel with particles ranging from 1-500 millimicrons is worked into an organic lubricant (e.g. butan-1:4-diol or the reaction products of ethylene oxide on oleic or stearic acid) to give a concentrate (at least 13%) that may be diluted with water or spindle oil for use as a fiber dressing agent in the spinning of cotton, wool, or staple fiber.

APPARATUS FOR SPRAYING TEXTILE FIBERS. G. Hulse and H. A. Vodden (to Monsanto Chemicals Ltd). USP 2 845 042, July 29, 1958. (3879)

The treating liquid is taken up by a rotating wheel and spun off by centrifugal force in the form of a fine spray onto the fibers.

FIBER CUTTER. A. Fotland (to Am. Viscose Corp.). USP 2 846 004, Aug. 5, 1958. (3880)

In an apparatus for cutting staple fiber from continuous filaments, an air blasting unit for feeding the fibers to the cutter and holding the fibers against a stationary blade during cutting.

APPARATUS FOR PRODUCING STAPLE FIBER FROM CONTINUOUS FILAMENTS. R. Wildbolz (to Joh. Jacob Rieter & Cie). USP 2 846 728, Aug. 12, 1958. (3881)

In a drafting arrangement for breaking filaments into staple fibers, the elastic recoil after breaking is reduced and curling is prevented by subjecting the filaments to heat treatment prior to breaking.

OPENING, PICKING, FIBER PREPARATION B 1

APPARATUS FOR SHAPING FIBER LAPS IN A LAP FORMING MACHINE. Kanegafuchi Boseki KK. BP 796 463, June 11, 1958. Through BCIRA 38: 463 (1958). (3882)

When a lap is completed on a conventional machine with a pair of fluted lap-forming rollers and loading rack bars, it is automatically transferred to a pair of grooved rollers that apply pressure and tighten the end of the lap against the main body.

COTTON OPENER. R. A. Rusca and R. C. Young (to Dodd Investments Ltd). BP 796 568, June 11, 1958. Through BCIRA 38: 463 (1958). (3883)

The cotton (or staple fiber, 1/2-2 1/2 in.) is conveyed by an endless belt to a wall-like set of toothed cylinders, rising up from and curving back towards the belt. The thin webs of fiber are stripped from the cylinders by a series of beater cylinders of a licker-in type and are buffeted thereby across grid bars.

COTTON CLEANING APPARATUS. L. H. Smith. USP 2 844 847, July 29, 1958. (3884)

Apparatus for effecting the preopening and cleaning of cotton as it is delivered from a blending feeder prior to delivery to the main cleaning system.

CARDING AND COMBING B 2

EVENER FOR CARDING MACHINES. W. Altenburger. BP 794 445, May 7, 1958. Through BCIRA 38: 393 (1958). (3885)

A pair of rollers is interposed in the path of the sliver between the sliver-forming mechanism (a) and the sliver can (b) so as to "feel" variations in thickness. One roller is mounted on a pivoted shaft which transmits movements, over links and rods, to the mechanism that controls the speed of rotation of (a) and (b) so as to correct variations in sliver thickness.

SPINNING, WINDING, TWISTING B 4

INSERTING TWIST IN RING SPINNING. J. Sutter (Germany). BP 794 449, May 7, 1958. Through BCIRA 38: 394 (1958). (3886)

A revolving spindle element is inserted between the traveler and the drawing rollers for the purpose of inserting twist in the stretch where end breakages occur most frequently. The yarn takes at least one turn around the spindle, which has two lateral projections at the upper end and an enlarged lower extension having an axial hole terminating in an axially inclined hole emerging from the extension at the end adjacent to the spindle member.

FLEXIBLE BEARING STRUCTURES FOR TEXTILE SPINDLES. Wuerttembergische Spindelfabrik GmbH. BP 795 569, May 28, 1958. Through BCIRA 38: 429 (1958). (3887)

The spindle bearing comprises (1) a housing with a conical seat near its inner end, (2) a pair of bearings, one near the inner and the other near the outer end of the housing, (3) a stabilizing bushing surrounding the inner bearing at a small distance from it and from the housing, having a conical end to engage the conical seat, and (4) a pair of springs in the housing and acting on the bushing for maintaining this truly centered.

YARN PACKAGE SUPPORTS. W. A. Proom (to Prince-Smith & Stells Ltd). BP 796 885, June 18, 1958. Through BCIRA 38: 464 (1958). (3888)

The invention relates to a telescopic yarn package support, particularly for use with the spinning machine covered by BP 794 114.

DRAFTING OF TEXTILE FIBERS. SKF Kugellagerfabriken GmbH. BP 795 676, May 28, 1958. Through BCIRA 38: 428 (1958). (3889)

The invention aims at reducing periodic drafting irregularity in yarn being spun from sliver in which at least half of the fibers are substantially of the same order of length. One of the drafting rollers is chosen of a circumference that is equal to the average fiber length (l) or to l divided by a whole number. The theory is expounded.

STOP MOTION FOR SPINNING FRAME. K. Ward (to Fairbairn Lawson Combe Barbour Ltd). BP 795 966, June 4, 1958. Through BCIRA 38: 463 (1958). (3890)

The stop motion operates to stop delivery of sliver to a drafting zone if the yarn breaks. The breakage detecting arm has a pawl or projection that engages with teeth carried by a frictionally driven roller in the drafting zone and this engagement stops the roller and also causes separation of a pair of rollers that feed the sliver.

CARRIER FOR THE COVERING OF A TOP ROLL FOR SPINNING MACHINES. J. J. Rieter & Cie AG. BP 796 112, June 4, 1958. Through BCIRA 38: 429 (1958). (3891)

The invention relates to thin, tubular sheaths that are stretched over enlarged portions of the axle of a top-roller (described as "ball bearings," one at each end of a twin roller assembly) and which carry the roller cots. The sheaths are cut with axial slots from tubing that is wider than the finished carrier is required to be and then stretched beyond the yield point. The diameter is thereby reduced, most of all where the slots are, i.e. where the sheaths fit over the bearings.

"FOUR-FOLD PREVENTER" FOR TWISTING. G. A. White. BP 796 352, June 11, 1958. Through BCIRA 38: 464 (1958). (3892)

A slotted tube is put in the path of the yarn with a V-shaped recess at one or both sides of the slot. If the yarn breaks it is caught in the recess and prevented from ballooning into an adjacent yarn.

SPINNING CANS FOR COP-SPINNING MACHINES. F. Princz (to Platt Bros. & Co. Ltd). BP 796 534, June 11, 1958. Through BCIRA 38: 463 (1958). (3893)

Defects of the usual sheet metal spinning cans for supporting roving packages in cop spinning are that they are deformable and permit slip of the package during unwinding. Accordingly, it is proposed to mold the cans from a plastic, with projecting ribs up the inner wall and/or on the inner base surface.

SPINNING AND TWISTING MACHINES. E. Hamel (Germany). BP 796 535, June 11, 1958. Through BCIRA 38: 464 (1958). (3894)

The invention relates to means for reversing the direction of the spindles (and therefore the yarn twist) by reversing the polarity of the driving motor without reversing the delivery and drafting mechanisms driven by the same motor. A reversing gear is mounted between the main shaft and the delivery and drafting mechanisms so that when it is moved from one position to the other it simultaneously operates a reversing switch for the motor.

APPARATUS FOR WINDING SUPERFINE GLASS FIBER. J. F. Stephens and G. H. Sowers (to Gustin-Bacon Mfg. Co.). USP 2 846 157, Aug. 5, 1958. (3895)

SUPPLY BOBBIN MOUNTING FOR SPINNING MACHINES. R. C. Stalker. USP 2 846 163, Aug. 5, 1958. (3896)

Supporting means which can be carried by one machine rail or frame member while permitting tilting of the bobbin to facilitate changing.

DRAFTING SYSTEM USING HIGHLY TWISTED ROVING. S. L. Abbott (to Abbott Mach. Co.). USP 2 846 730, Aug. 12, 1958. (3897)

APPARATUS FOR LOADING BOBBINS ON PIN-BOARDS. G. A. Snow (to Whitin Mach. Works). USP 2 846 833, Aug. 12, 1958. (3898)

APPARATUS FOR UNTWISTING GLASS FIBER STRANDS DURING WINDING. H. L. Wolfe (to L. O. F. Glass Fibers Co.). USP 2 846 838, Aug. 12, 1958. (3899)

YARNS B 5

THREAD AND TEXTILE MATERIALS PRODUCED THEREWITH. H. Placking. BP 795 538, May 28, 1958. Through BCIRA 38: 426 (1958). (3900)

A foamed polyurethane plastic is extruded, or made into a sheet which is cut into strips, to produce threads that contain pores or cells. The threads may be wrapped round nonelastic core yarns or used as core yarns with coatings of other fibers. The products may be used in garments, life-belts, etc., where heat insulation and buoyancy are desirable.

DIRECT SPUN SHANTUNG YARN. C. E. Neisler, Jr. USP 2 845 771, Aug. 5, 1958. (3901)

SNAG RESISTANT BULKY SUPERPOLYAMIDE PLY YARNS. J. Billion (to Soc. Billion & Cie). USP 2 846 839 and 2 846 840, Aug. 12, 1958. (3902)

Superpolyamide yarns are given a twist of 1500 to 4000 turns/meter, shrunk, set, backtwisted to 400 to 800 turns/meter, and combined by twisting in a direction opposite to the original twist.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

WARP BEAMS. A. V. H. Spink. BP 794 529, May 7, 1958. Through BCIRA 38: 396 (1958). (3903)

An adjustable clamping means for securing a flange on a beam barrel comprises a bush or housing formed with, or fastened to, the flange and a radially contractible collar housed therein. The internal surface of this collar is roughened to grip the barrel.

WARP BEAMS. W. Grob (Switzerland). BP 794 533, May 7, 1958. Through BCIRA 38: 396 (1958). (3904)

The barrel comprises a single tube formed with a screw thread at each end to hold the adjustable flanges. The pitch of the thread is several times larger than the width of the groove.

YARN WINDING. W. J. Fisher, W. Howarth, and B. Smith (to Brit. Celanese Ltd). BP 794 920, May 14, 1958. Through BCIRA 38: 396 (1958). (3905)

The package is urged into frictional contact with its driving member and has, for rotation with it, a body that serves as a fly wheel.

DEVICE FOR REMOVING A COP FROM A WINDING MACHINE SPINDLE. Officina Meccanica Bruegger SpA. BP 795 115, May 14, 1958. Through BCIRA 38: 396 (1958). (3906)

An automatic device for doffing cops comprises a lead screw-and-nut mechanism that displaces the spindle, when the cop is fully wound, the cop being restrained against movement by the reaction of the conical end against an associated roller.

WINDING OF TEXTILE MATERIALS. G. Curtis and A. A. Atkins (to Courtaulds Ltd). BP 795 531, May 28, 1958. Through BCIRA 38: 431 (1958). (3907)

The invention is concerned with the mounting of large bobbins on flexible spinning or twisting spindles, especially for high-speed winding. The bobbin is supported on a relatively heavy adaptor which is mounted on the spindle so that contact occurs above the center of gravity of the combination, irrespective of the amount of yarn on the bobbin and there is no direct contact with the spindle at its lower end. The adaptor has a tapered hole to match a tapered portion of the spindle.

YARN TENSION CONTROL DEVICES. H. Stanier. BP 795 800, May 28, 1958. Through BCIRA 38: 432 (1958). (3908)

The invention relates particularly to a device for controlling the tension of delicate yarns when being drawn off over end, at high speed, from bobbins or other packages. The yarn passes into and out of the device through fixed guides or eyelets between which is a further guide mounted on a counter-weighted, pivoted arm. This arm moves instantly under variations of tension and effects appropriate separation of a tension guide of the disc type.

YARN WINDING. W. Pool and H. E. B. Young (to Brit. Celanese Ltd). BP 796 060, June 4, 1958. Through BCIRA 38: 432 (1958). (3909)

The invention relates to package winding with a grooved traversing drum and seeks to avoid the "ribboning" trouble that is liable to occur when the ratio of the circumference of the drum to that of the package is a ratio of two small integers. The package is driven at a uniform speed and makes contact with the drum except during periods of the critical ratio when it is moved out of contact and the drum is driven at a fluctuating speed by frictional engagement with a fluctuating shaft. This engagement is caused to slip when the contact between package and drum is restored.

MEANS FOR CONTROLLING THE WINDING OF FILAMENTS OR WEBS. R. A. Kimber and P. E. R. Coleman (to Crowther Ltd). BP 796 089, June 4, 1958. Through BCIRA 38: 432 (1958). (3910)

The package is motor-driven and is "felt" by a rotatable device that drives a generator which, in turn, energizes an electronic device that controls the speed of the motor so that the linear speed of the filament or web is constant. The electronic device is adjustable to provide for speed control over a range of speeds.

AUTOMATIC STOPPING MECHANISM FOR YARN WINDING MACHINES. C. Holliday (to Joseph Stubbs Ltd). BP 796 545, June 11, 1958. Through BCIRA 38: 466 (1958). (3911)

The invention relates to stop-mechanism for a winding machine fitted with a double helical groove traversing drum. The drum carries a friction disc at one end and is driven by contact with another disc on a shaft. If the yarn fails, the two discs separate and a brake moves into contact with the disc on the drum.

PERMANENT SIZING OF CELLULOSIC YARNS. E. Abrams and N. H. Sherwood (to B. F. Goodrich Co.). USP 2 840 442, June 24, 1958. (3912)

Permanent, abrasion-resistant sizing is provided by treatment with an aqueous dispersion or latex of a butadiene hydrocarbon/acrylic nitrile copolymer.

WARPING MACHINE STOP MOTION. E. M. Ayars, W. P. Crawley, and R. E. Cornwell (to Am. Viscose Corp.). USP 2 844 860, July 29, 1958. (3913)

Drop wires which react to excess or insufficient tension in each yarn end to close an electrical circuit which automatically stops the warping operation.

SLUB CATCHING DEVICE. F. F. Stange and C. P. Bullard (to Foster Mach. Co.). USP 2 844 861, July 29, 1958. (3914)

Slub catcher for automatic winding machines in which the leading end of a yarn, fed from a reserve bobbin, is joined by knotting to the trailing end of a yarn on the package to be wound.

WARP BEAM PACKAGING. Q. E. Hargenrater (to Am. Viscose Corp.). USP 2 844 923, July 29, 1958. (3915)

Method of packaging warp filled beams for shipment or storage so that the numerous layers of warp are protected from damage or disarrangement.

GLASS FIBER SIZING AGENT. A. Marzocchi, A. W. Brown, and G. E. Rammel (to Owens-Corning Fiberglas Corp.). USP 2 846 348, Aug. 5, 1958. (3916)

Sizing components, which can be easily removed by heat cleaning with minimum reduction in tensile strength of the fibers, consist of an aqueous dispersion of 5 to 25% of a polyglycol ester or ether and from 0 to 25% of a plasticizer such as tricresyl phosphate which acts as a flame depressant.

WARP SIZE FOR MANMADE FIBERS. A. Renold and W. J. Van Loo, Jr. (to Am. Cyanamid Co.). USP 2 845 689, Aug. 5, 1958. (3917)

An abrasion-resistant sizing agent consists of a non-acidic size, e.g. gelatin or polyvinyl alcohol, dicyandiamide, and a polyacrylate salt.

WEAVING C 2

LOOM SELVAGE-FORMING DEVICE. Výzkumný Tvárecich Stroju. BP 794 515, May 7, 1958. Through BCIRA 38: 396 (1958). (3918)

The invention relates particularly to means for forming selvages on a shuttleless loom of the kind in which the weft is inserted by means of a jet of air or liquid and cut after each pick. Means are provided for moving the central one of the three outermost warp ends in unison with one heddle and the other two in unison with the other heddle. The means for moving these two ends are combined with a twisting device whereby at shedding end no. 1 becomes no. 3 and vice versa.

COMB SECTORS FOR LACE MACHINES. A. Wagner (to VEB Tullgardinen und Spitzen Werke). BP 795 346, May 21, 1958. Through BCIRA 38: 433 (1958). (3919)

The sector comprises metal or plastic guide plates and carriage bearers, and extension pieces for securing the sector to the comb bar of a lace machine. The plates and bearers are bolted together instead of being cast into a block with fusible alloy but they have the shape of the conventional casting.

TEXTILE MACHINES EMPLOYING A JACQUARD. F. H. Haslam-Jones (to John Jardine Ltd). BP 795 371 and 795 372, May 21, 1958. Through BCIRA 38: 433 (1958). (3920)

These inventions relate particularly to Leavers lace machines and concern the mounting of the biasing springs for the jacquard mechanism. The springs are anchored about a vertical axis transverse to the direction of the required biasing force and means are provided for converting the vertical force to the horizontal.

DROPPER JACQUARD MECHANISM. F. H. Haslam-Jones (to John Jardine Ltd). BP 795 373 and 795 374, May 21, 1958. Through BCIRA 38: 433 (1958). (3921)

These inventions relate particularly to Leavers lace machines and concern the selection of the droppers to which the jacquard cards are presented.

DEVICE FOR MEASURING ROTATIONAL MOVEMENTS ON A LOOM. G. Turton (to Brit. Rayon Research Assoc.). BP 795 389, May 21, 1958. Through BCIRA 38: 432 (1958). (3922)

The invention relates particularly to an instrument for use in adjusting loom settings. It comprises a dial (6 in. diameter) calibrated in degrees and a pointer connected together so that when one is secured to the end of the shaft (by means of a pot magnet behind the dial) the other will rotate freely under gravity and remain in, or return to, a datum position. The pointer will thus indicate the angle of rotation.

WOVEN TEXTILE FABRICS. D. W. Shimwell (to Weaving Research & Textile Commn. Agents Ltd). BP 795 468, May 21, 1958. Through BCIRA 38: 433 (1958). (3923)

The invention relates to fabric that has more weft in the selvages than in the body. It is woven on a stationary weft-supply loom, e.g. that covered by BP 748 616. Weft picks inserted in alternation from opposite sides are looped back in the opposite selvage. One end of each loop has a turned-back end at the selvage and the loops inserted from one side pass around the turned-back ends of the other picks. A diagram shows the following sequence of picks at one selvage: (1) plain end of the first loop, (2) and (4) the second loop, (3) the turned-back end of the third loop, (5) the plain end of the third loop, (6) and (8) the fourth loop, (7) the turned-back end of the fifth loop, and so on.

JACQUARD MECHANISM. A. B. Fielding (to Devoge & Co. Ltd). BP 795 692, May 28, 1958. Through BCIRA 38: 432 (1958). (3924)

Jacquard mechanism for weaving figured terry fabrics has two hooks per needle and three griffes; one hook has two projections directed forward and backward so that it can be controlled by either of two griffes and the griffes are lifted by three cams, or one cam and three cam followers.

BEATING-UP MEANS FOR CIRCULAR LOOMS. H. J. Cooper. BP 796 288, June 11, 1958. Through BCIRA 38: 466 (1958). (3925)

Movable blades form between them channels for the warp ends in advance of the fell. The blades remain in engagement with all the ends simultaneously and keep them from crowding together.

OVERPICK LOOM PICKERS. J. W. Stott. BP 796 289, June 11, 1958. Through BCIRA 38: 466 (1958). (3926)

The picker has reinforcing swellings on the front and rear faces.

SHUTTLES. C. Mills and J. Bolton (to Henry Mills & Son Ltd). BP 796 617, June 18, 1958. Through BCIRA 38: 466 (1958). (3927)

A U-shaped clip for holding a pirn on a shuttle tongue is made of rubber or synthetic resin and its legs fit in vertical grooves in the shuttle.

WEAVING METHOD. H.-J. Dietzsch and O. Dietzsch (to J. Schiesser Trikotfabriken AG). USP 2 845 093, July 29, 1958. (3928)

Successive traveling waves of shedding are formed in the warp threads. Shuttles are moved in these wave bulges.

WEAVING CUT PILE FABRICS. G. L. Mills (to Bates Mfg. Co.). USP 2 845 094, July 29, 1958. (3929)

In this method of producing cut pile fabrics by leno action crossing of warp yarns over pile-forming wires which extend warpwise, the decorative thread is interlaced warpwise into the ground fabric at widely spaced points, and is cut while the fabric is in the loom.

WEFT YARN CLAMP. E. Pfarrwaller (to Sulzer Frères SA). USP 2 845 095, July 29, 1958. (3930)

Clamps with two movable jaws for transferring yarn to or receiving yarn from another clamp.

PRODUCTION OF CONTROL PATTERNS FOR LOOMS. P. Pasquet (France). USP 2 845 096, July 29, 1958. (3931)

Apparatus for the production of a control film recording of a monochromatic color pattern correlated to the weave intersections of warp and weft yarns. The film may be used for the perforation of jacquard loom control cards or to control the figuring hooks of a multicolor loom.

QUILL DRIVE MECHANISM FOR WIRE LOOM. R. A. Christy and L. L. Levitt (to Borg-Warner Corp.). USP 2 845 097, July 29, 1958. (3932)

CLUTCH CONTROL FOR LOOM SHAFT DRIVE. E. F. Bahan (to Bahan Textile Machy. Co.). USP 2 845 160, July 29, 1958. (3933)

Lubrication and mounting means for disc friction gear.

SHAFT ARRANGEMENT FOR LOOMS. C. Wagner (Germany). USP 2 845 953, Aug. 5, 1958. (3934)

The shaft is constructed as a slide rail and is coated with an abrasion-resistant nonmetallic coating. The shaft hooks are resilient U-shaped clips with rollers at their free ends for movement on the slide rail.

REED FOR WIRE LOOM. K. U. Schuster (Germany). USP 2 845 955, Aug. 5, 1958. (3935)

MULTISHUTTLE WEFT REPLENISHING LOOM. C. Darwin (to Crompton & Knowles Corp.). USP 2 845 956, Aug. 5, 1958. (3936)

Means for reducing the angular motion of the magazine immediately before the weft replenishing operation occurs in order to permit faster loom operation.

AUTOMATIC BOBBIN REPLENISHING. W. H. Banks and H. N. Thibault (to Draper Corp.). USP 2 845 957, Aug. 5, 1958. (3937)

The supply of filling packages is automatically controlled by means of an air operated gripping and suction system.

LOOM CONTROL CIRCUIT. B. B. Purdy and A. T. Godschalx. USP 2 845 958, Aug. 5, 1958. (3938)

Electrical system for stopping loom operation in response to broken or slack warp threads and to excessive rise in cloth being wound on the cloth roll.

WEFT STOP MOTION. W. H. Bell. USP 2 847 038, Aug. 12, 1958. (3939)

Connection between knockoff lever and knockoff plunger of weft stop motion which prevents improper alignment between the plunger arm and the bunter due to loom vibration.

WEAVING BIFURCATED TEXTILE TUBES FOR THE REPLACEMENT OF DISEASED OR DAMAGED ARTERIES. J. B. Sidebotham. USP 2 845 959, Aug. 5, 1958. (3940)

PICKER STICK CHECK. J. Picanol (Belgium). USP 2 847 037, Aug. 12, 1958. (3941)

Check consisting of a series of leather strips joined together in such a way as to effect a progressive braking action.

KNITTING C 3

FILAMENT MEASURING DEVICES. D. L. Munden, J. Elliott, and C. Harris (to Hosiery & Allied Trades Research Assoc.). BP 795 615, May 28, 1958. Through BCIRA 38: 432 (1958). (3942)

A device for translating linear travel of a running filament (yarn) into rotary movement that indicates the speed or length of the filament comprises two intermeshing vane wheels of light alloy between which the filament runs in a series of kinks, the depth of which can be adjusted. The device is described in relation to a portable instrument for testing yarn running to a knitting machine.

YARN TENSION CONTROL FOR WARP KNITTING MACHINES. F. P. Trumpio (to Textile Mach. Works). USP 2 844 950, July 29, 1958. (3943)

MEANS FOR FORMING DROPPED LOOPS IN FULL-FASHIONED FABRIC BLANKS. R. Anke (to Textile Mach. Works). USP 2 844 951, July 29, 1958. (3944)

FABRIC TENSIONING MECHANISM FOR CIRCULAR KNITTING MACHINES. J. Wawzonek (to Hemphill Co.). USP 2 844 952, July 29, 1958. (3945)

The fabric is tensioned by blowing air down through the needle cylinder with sufficient spread, volume, and pressure to produce the effect of a weight dragging on the fabric throughout the knitting cycle.

ELASTIC LACE FABRIC. R. Bloch (to Liberty Fabrics of N. Y.). USP 2 845 834, Aug. 5, 1958. (3946)

Method of knitting an elastic lace, which is highly elastic in one direction and less so in the other, on standard Levers lace machines, multiple bar knitting machines, and converted curtain machines.

DISPERSAL OF FLUFF OR LINT FROM CIRCULAR KNITTING MACHINES. A. Shortland (to Mellor Bromley & Co. Ltd). USP 2 846 860, Aug. 12, 1958. (3947)

Air compressor which supplies air at comparatively low pressure to various parts of the machine while it is in operation.

FABRICS C 4

MANUFACTURE OF CHENILLE FUR STRIPS FOR CARPETS. J. G. Underwood and D. H. Shuttleworth (to Mohasco Inds.). USP 2 845 783, Aug. 5, 1958. (3948)

FOLDING MACHINE FOR PILING FABRIC PREPARATORY TO CUTTING. Virginio Rimoldi & Co. SpA. BP 794 463, May 7, 1958. Through BCIRA 38: 397 (1958). (3949)

The invention relates to means for equalizing the tension in layers of fabric, especially resilient knitted fabric, as they are laid down in folds for cutting into parts for garments.

PRODUCTION OF WEBS. Sud-West Chemie GmbH. BP 794 821, May 14, 1958. Through BCIRA 38: 393 (1958). (3950)

A mixture of fiber (e.g. rock or slag wool) and a thermosetting resin (e.g. a phenol-formaldehyde resin) is uniformly distributed in a whirling current of air and forced against a porous or perforated screen behind which suction is maintained. The web may be rolled up or cut into pads, e.g. for insulation purposes.

CONSTRUCTION OF GARMENTS, FURNISHINGS, TENTS, ETC. E. H. Parmenter. BP 794 822, May 14, 1958. Through BCIRA 38: 397 (1958). (3951)

The outlines of the various panels are printed or woven on the length of fabric and, during weaving, holes are made between the panels whereby they can be separated readily. Further, the edges of the panels are provided with woven, processed or applied means (e.g. loops) whereby two panels may be joined together edge to edge (e.g. by running a thread through alternate loops).

MANUFACTURE OF GRID ELECTRODES FOR DISCHARGE TUBES. Telefunken GmbH. BP 795 168, May 21, 1958. Through BCIRA 38: 433 (1958). (3952)

The very thin wire for grid electrodes is woven with a textile yarn as warp or weft and this is burnt or dissolved out after the piece of fabric is assembled in the discharge tube.

BULLET-PROOF CLOTH. L. P. Frieder and W. S. Finken. BP 796 147, June 4, 1958. Through BCIRA 38: 433 (1958). (3953)

A multi-ply fabric for body armor has warp and weft threads that wander in places from their own particular ply into adjacent plies.

LONG-WEARING PAPERMAKERS' DRYING FELT. Scapa Dryers Ltd. BP 796 562, June 11, 1958. Through BCIRA 38: 467 (1958). (3954)

Some 6-14% of the felt is made up of synthetic filaments (e.g. nylon or Terylene) inserted as helical windings around some of the warp ends (e.g. 7s/5 cotton) and, if desired, some of the weft ends. An "asbestos dryer felt" has a fabric of the above type as backing. A graph is given to show how the useful life of the felt increases with the proportion of synthetic filament.

METHOD OF MAKING COLLARS. T. D. Ainslie (to Phillips-Jones Corp.). USP 2 845 688, Aug. 5, 1958. (3955)

Collar-width sections of fabric are woven together to form a relatively wide piece of fabric to facilitate bleaching, dyeing, and finishing. Division bands of reduced thread content separate the collar strips.

FUSED FABRIC ASSEMBLIES. E. Kornreich and L. S. Adler (to Trubenised (Gt. Brit.) Ltd). BP 796 597, June 18, 1958. Through BCIRA 38: 467 (1958). (3956)

The interlining fabric contains or carries an alkoxymethylated nylon polymer, and adhesion to the other fabric and curing of the resin are effected by heat (120–145° C) and pressure in the presence of a solvent (e.g. alcohol) and a catalyst (e.g. citric acid).

COMPOSITE TUFTED CHENILLE MATERIALS. B. Glass (to Everwear Candlewick Ltd). BP 796 868, June 18, 1958. Through BCIRA 38: 467 (1958). (3957)

The invention relates to a fabric that has a surface layer of satin or taffeta and a backing layer of cotton sheeting connected together here and there by tufting stitches and having chenille tuft protruding through the surface. After assembling the materials the backing is made to shrink (e.g. by wetting) so that the surface layer becomes ruckled.

PILE CARPET. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 845 960, Aug. 5, 1958. (3958)

Pattern effects are produced by means of high and low loops of contrasting warps in successive rows, the low loops of one row being masked by high loops differently placed in the next row.

PILE JUMP CARPET. F. W. E. Hoeselbarth (to C. H. Masland & Sons). USP 2 845 961, Aug. 5, 1958. (3959)

In addition to the normal pile projections, jump pile projections are used to form a diagonal pattern.

MANUFACTURE OF VENETIAN BLIND LADDER WEBBING. R. French (to Thomas French & Sons Ltd). USP 2 847 039, Aug. 12, 1958. (3960)

FINISHING AND CHEMICAL PROCESSING D

TWIST DETECTION AND DETWISTER CONTROL OF FABRIC IN ROPE FORM. J. D. Robertson and W. E. Dean. BP 795 024, May 14, 1958. Through BCIRA 38: 402 (1958). (3961)

The invention relates to means for detecting the presence and direction of twist in fabric that is being opened out to full width. The fabric is run between a pair of rollers that lightly engage the opposite edges. As the fabric leaves the rollers it is pulled laterally in opposite directions. This tightens any twist and the fabric tends to rotate. One or other of the rollers is thereby caused to turn and its direction of rotation indicates the direction of twist in the fabric. Electrical devices are also actuated to set detwisting mechanism in motion.

PRESSURE ROLLERS. G. J. Parish (to Brit. Cotton Ind. Research Assoc.). BP 795 523, May 28, 1958. Through BCIRA 38: 440 (1958). (3962)

The invention relates to means for securing uniform nip pressure with mangle bowls by allowing for the bowing that occurs when pressure is applied on the journaled ends of the axle and, partly at least, for the softening of the resilient cover in protracted use.

APPARATUS FOR UNTWISTING MATERIAL IN TWISTED ROPE FORM. W. J. Moorhouse and E. Wilford (to Bradford Dyers' Assoc. Ltd). BP 794 429, May 7, 1958. Through BCIRA 38: 402 (1958). (3963)

Known forms of apparatus incorporating a twist detector for untwisting fabric running in rope form tend to overcorrection. Moreover, as twist over one stretch is usually followed by opposite twist over the next stretch it should only be necessary to pull at the rope to open out the fabric in most cases. The invention consists, therefore, in an "anti-hunting" device that controls the twist detector so that this only operates when absolutely necessary. The fabric runs between the operating arms of a pair of switches, biased to the closed position, and so long as the cloth makes contact with both arms the twist detector is electrically nonoperative.

CHEMICAL PROCESSES D 1

PROCESS FOR THE MANUFACTURE OF AERATED FULLY SYNTHETIC FIBERS. Feldmühle AG. BP 795 585, May 28, 1958. Through BCIRA 38: 438 (1958). (3964)

Fibers, yarns, and fabrics of the nylon, Terylene, and Orlon types are treated successively with a swelling agent (acetic and formic acid, chloral hydrate, phenol, calcium thiocyanate), an aqueous solution or suspension of a catalyst (permanganate or a manganese or cobalt salt) and a peroxy compound (hydrogen peroxide).

FINISHING OF CELLULOSE ESTER TEXTILE FABRICS. R. J. Mann and G. F. Bull (to Brit. Celanese Ltd). BP 795 821, May 28, 1958. Through BCIRA 38: 440 (1958). (3965)

Cellulose triacetate fabrics are treated with a softening agent (e.g. 52% acetic acid) under conditions of free shrinkage (e.g. 10–25%, warp-ways), washed, dried, and heated (at about 215° C) to increase the crystallinity of the cellulose triacetate. The safe ironing temperature is raised to at least 200° C.

POLYMETHYLENE TEREPHTHALATE RESISTANT TO THE GROWTH OF FUNGI AND BACTERIAL ATTACK WHEN A NUTRIENT SOURCE IS PRESENT. W. Glen (to Imp. Chem. Inds. Ltd). BP 796 107, June 4, 1958. Through BCIRA 38: 441 (1958). (3966)

Fabrics of the Terylene type (e.g. sailcloth) are rotproofed by impregnation with o-phenylphenol (with the help of a surface active agent, if desired) followed by treatment with a water-repelling agent (e.g. a silicone polymer).

FABRIC DECORATION BY DEPOSITING METAL FROM THE VAPOR STATE. Heberlein & Co. AG. BP 796 139, June 4, 1958. Through BCIRA 38: 441 (1958). (3967)

Sheet materials that have a pronounced system of projections (e.g. warp and weft crossing points) are exposed to metal vapor in a high vacuum in such a way that the metal is deposited preferentially on one side of the projections. Two metals may be deposited, one normal to the general surface (e.g. silver on cotton satin) and the other at an angle of 20–40° (e.g. gold); the product appears silvery or golden according to the viewing angle.

REVERSE ROLL COATING MACHINE WITH BLADE SUPPORT FOR WEB. A. W. Pomper (to John Waldron Corp.). USP 2 842 092, July 8, 1958. (3968)

Method and apparatus for applying coating to a traveling web with minimum penetration or strike-through on porous or open mesh type web material. The usual resilient backing roll is replaced with a flexible blade of the doctor type.

GLASS FABRICS WITH IMPROVED HAND. J. H. Waggoner (to Owens-Corning Fiberglas Corp.). USP 2 845 364, July 29, 1958. (3969)

Soft and supple glass fabrics, still retaining their other desirable characteristics, are obtained by means of successive thermal treatments. The first has as its function the relaxation of the fibers in the woven fabric and the setting of the weave. The second consists of coating the fabric with liquid silicone and heating to dry the coating.

ANTISTATIC FABRICS. D. Bulgin (to Dunlop Rubber Co. Ltd). USP 2 845 962, Aug. 5, 1958. (3970)

Fabric having 2 to 20% of fibers containing carbon black. The fabric may be woven from a mixed yarn or from two types of yarn.

APPARATUS FOR WINDING AND UNWINDING THE FLEXIBLE MEMBERS USED IN DECATING MACHINES. A. Becker (Germany). USP 2 846 161, Aug. 5, 1958. (3971)

DYEING AND PRINTING D 2

PRODUCTION OF IRIDESCENT COLOR EFFECTS ON FABRICS. Heberlein & Co. AG. BP 792 072, Mar. 19, 1958. Through BCIRA 38: 244 (1958). (3972)

The fabric is exposed in a high vacuum to the vapor of a metal (e.g. Al or Cu) and then to the vapor of stannic oxide, antimony trioxide or lead monoxide. The fabric may first be impregnated with a melamine/formalin precondensate and then embossed, glazed or schreinered and the vapor of a dye may be applied between the metal and oxide layers.

DYEING POLYESTER FIBERS. D. A. Garrett (to Imp. Chem. Inds. Ltd). BP 792 210, Mar. 19, 1958. Through BCIRA 38: 243 (1958). (3973)

Polyester fibers of the type of Terylene are impregnated with a dispersion of an insoluble dye, or with intermediates that can yield a dye on the fiber, and then exposed to the saturated vapor of a halogenated aliphatic hydrocarbon of bp below 100° C, e.g. chloroform, ethylene dichloride or trichloroethylene.

DYEING ARTIFICIAL FIBERS. Badische Anilin und Soda Fabrik AG. BP 792 396, Mar. 26, 1958. Through BCIRA 38: 275 (1958). (3974)

Cellulose acetate, polyacrylic, polyamide, polyurethane, and polyester fibers are dyed in fast yellow to orange-red shades by means of dispersions of 1-aminobenzophenone sulfones. The fibers may first be animalized and then dyed with a 1-aminobenzophenone sulfone carrying a carboxyl group.

COLORED CELLULOSE ACETATE FILAMENTS. A. J. Maisey, E. Seijo, and T. C. Young (to Lansil Ltd). BP 792 705, Apr. 2, 1958. (Addition to BP 780 851). Through BCIRA 38: 337 (1958). (3975)

Wet-spun cellulose acetate filaments having acetic acid yields of 52-62% are dyed while still in the wet, swollen condition, with direct, acid, basic, vat, sulfur, or cellulose acetate dyes.

DYEING CELLULOSE TRIACETATE. H. C. Olpin and W. J. Savory (to Brit. Celanese Ltd). BP 792 838, Apr. 2, 1958. Through BCIRA 38: 337 (1958). (3976)

Cellulose triacetate fabrics are allowed to take up an aminoazo compound from a bath at pH above 6, then 2:3-hydroxynaphthoic acid from a bath at pH below 4, and subjected to a treatment that effects diazotization and coupling.

DYEING CELLULOSE MATERIALS. W. Kilby and D. Haworth (to Standfast Dyers & Printers Ltd). BP 793 190, Mar. 9, 1958. Through BCIRA 38: 337 (1958). (3977)

Continuous dyeing with vat or sulfur dyes characterized by the following steps: (1) preparation of the dye liquor (dye, thiourea dioxide or thiourea and an oxidizing agent, alkali, and water) just before its application, (2) impregnation of the textile material (cotton, viscose) at a temperature below 25° C, and (3) heating the impregnated material to at least 70° C.

DYEING CELLULOSE TRIACETATE. H. C. Olpin, J. Wood, and W. J. Savory (to Brit. Celanese Ltd). BP 793 559, Apr. 16, 1958. Through BCIRA 38: 337 (1958). (3978)

Cellulose triacetate materials are caused to take up an enolic coupling component from an aqueous dispersion containing an organic solvent for the component (e.g. diethyl phthalate or tripropyl phosphate) and a diazotizable base, and then run through a diazotizing bath.

PROTECTION OF DYED CELLULOSE ACETATE OR TERYLENE AGAINST FADING IN GAS FUMES. T. Greasley and R. J Mann (to Brit. Celanese Ltd). BP 793 701, Apr. 23, 1958. Through BCIRA 38: 375 (1958). (3979)

Cellulose acetate or Terylene materials are treated, before or after dyeing, with a zinc salt that causes swelling of the fibers (e.g. zinc acetate) and then with alkali so as to deposit a basic zinc compound in amount equivalent to 0.5-2.5% of ZnO on the weight of the fiber.

DYEING WOOL AND NYLON FIBERS. Badische Anilin und Soda Fabrik AG. BP 793 903, Apr. 23, 1958. Through BCIRA 38: 376 (1958). (3980)

Fast dyeings on wool and nylon are given by the 1:1-chromium complexes of azo or azomethine dyes devoid of sulfonic acid groups if, simultaneously with or subsequent to the dyeing, the material is also treated with a colorless organic compound that also yields a complex chromium compound.

BASIC DYEING OF CELLULOSIC TEXTILES. R. Sause and W. E. Stephan (to Imp. Chem. Inds. Ltd). BP 794 180 and 794 181, Apr. 30, 1958. Through BCIRA 38: 375 (1958). (3981)

Affinity for basic dyes is conferred on cellulosic materials (e.g. viscose rayon) by treating them under aqueous-alkaline conditions with a halogeno-1:3:5-triazine compound obtained by the action of cyanuric chloride on a primary or secondary amine containing at least one negatively-charged solubilizing group.

MECHANICAL PROCESSES D 3

HEAT TREATMENT OF MATERIAL OF SYNTHETIC LINEAR POLYMERS. J. Buchan and W. S. Symes (to Brit. Nylon Spinners Ltd). BP 796 363, June 11, 1958. Through BCIRA 38: 480 (1958). (3982)

The material (e.g. nylon yarn) is drawn continuously through molten Wood's metal (at 160-240° C) covered with a silicone oil.

FABRIC RAISING MACHINES. C. M. von Hobe (to A. Monforts Co.). BP 796 729, June 18, 1958. Through BCIRA 38: 480 (1958). (3983)

In a method of controlling the operation of a raising machine the tension of the fabric is regulated by adjusting the ratio between the speed of an externally driven roller that feeds the fabric to the machine and the speed of another externally driven conveying roller located between the two raising sectors or at the end of the raising path.

CLOTH FOLDING MACHINE. R. S. Gamble and L. F. Remington (to Curtis & Marble Mach. Co.). USP 2 845 265, July 29, 1958. (3984)

In a machine for folding cloth in superposed layers by means of a folding blade and clamping jaws, the progressive adjustment of the clamping pressure to cloth load is effected by hydraulic means.

APPARATUS AND METHOD FOR FORMING ENDLESS FABRIC. W. C. Mason (to F. C. Huyck & Sons). USP 2 845 686, Aug. 5, 1958. (3985)

The splicing apparatus described eliminates hand tying of fabrics in forming endless belts, e.g. papermakers felt.

WEFT STRAIGHTENING APPARATUS FOR TENTER. N. E. Woodward. USP 2 846 751, Aug. 12, 1958. (3986)

Bow straightening roll which is driven in a predetermined timed relationship to the flow of a fabric through the tenter, so that the fabric may be straightened before it is wound on a reel.

REDUCING ELONGATION OF TIRE CORDS. E. T. Lessig (to B. F. Goodrich Co.). USP 2 846 752, Aug. 12, 1958. (3987)

Reduction of elongation in tire cords is effected as part of a continuous process by heating and stretching the cords immediately after the usual rubber adhesion-promoting substance has been applied.

TESTING AND MEASUREMENT E

FIBERS E 1

METHOD FOR MEASURING THE STAPLE LENGTH OF FIBERS. E. Lord (to Brit. Cotton Ind. Research Assoc.). USP 2 845 837, Aug. 5, 1958. (3988)

In a double fringed sample layer with parallel fibers, the modal length of the fibers is optically determined from the distance between parallel lines (one at each fringe) across the fibers.

YARNS E 2

APPARATUS FOR THE FREQUENCY ANALYSIS OF PERIODIC VARIATIONS IN THE CROSS-SECTION OF SLIVERS, ROVINGS, AND YARNS. Zellweger Ltd. BP 795 808, May 28, 1958. Through BCIRA 38: 447 (1958). (3989)

TENSION COMPARING DEVICE FOR YARNS. K. Greenwood (to Brit. Rayon Research Assoc.). BP 796 159, June 4, 1958. Through BCIRA 38: 429 (1958). (3990)

The invention relates to an instrument for testing whether or not two yarns or sets of yarns are running at the same tension or uniformly at the same ratio of tensions (e.g. in the doubling process). The yarns pass over two pulleys mounted at one end of a rectangular plate pivoted at its center of gravity. The plate tends to tilt but reaches an equilibrium position shown by a pointer and scale which can indicate the ratio of tensions. A suitable housing for the movable parts also carries rollers for guiding the yarns in and out.

YARN DEFECT MONITOR. W. L. Duncan and G. H. Hutchens (to E. I. du Pont de Nemours & Co.). USP 2 841 048, July 1, 1958. (3991)

Apparatus for detecting defects such as broken filaments, strip backs, or fluff balls in a running filament yarn by means of a photoelectric cell.

APPARATUS FOR MEASURING DENIER OF CORDING OR WEBBING. R. E. Benn (to E. I. du Pont de Nemours & Co.). USP 2 844 028, July 22, 1958. (3992)

Apparatus for measuring the weight per unit length of cording as a function of vibration amplitude.

FABRICS E 3

SLUB MARKING MECHANISM. D. Mindheim and H. C. Lindemann (to Lindly & Co.). USP 2 834 206, May 13, 1958. (3993)

Mechanism for detecting a defect in a moving web and for marking the defect with powdered chalk.